

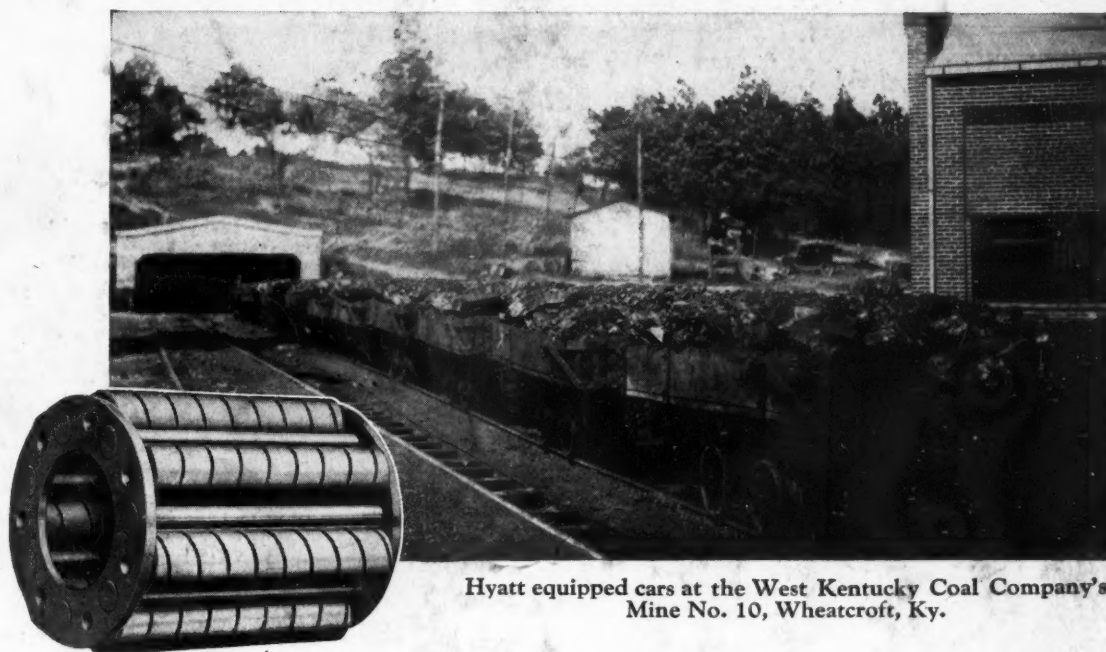
# COAL AGE

*The World's Accepted Authority on Coal Mining*

McGraw-Hill Co., Inc.

August 13, 1925

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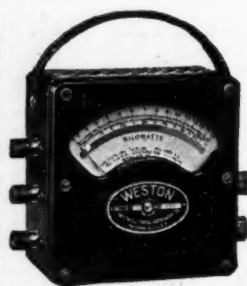
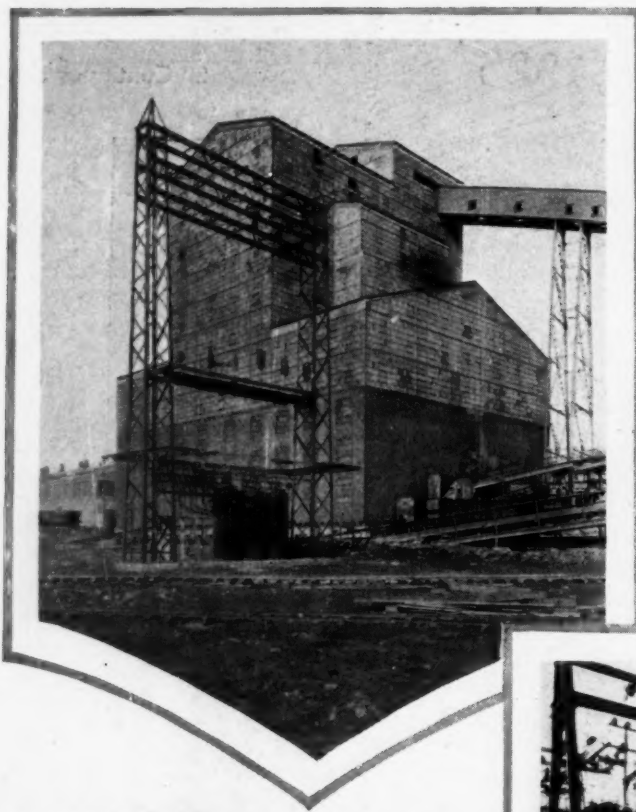
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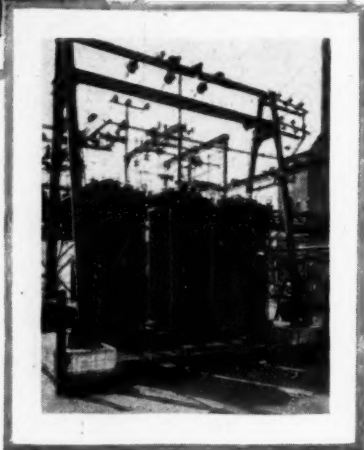
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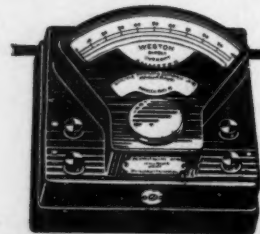
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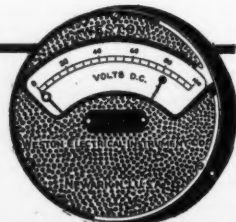
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# COAL AGE

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## Beating Nature

**H**ARD MINING CONDITIONS do not often discourage coal mining engineers. Down in Alabama a maze of local faults and a seam of dirty coal did not discourage the men who built and are operating the Edgewater mine of the Tennessee Coal, Iron & R.R. Co.—a mine whose story is told in *Coal Age* next week. What if operations *did* have to be conducted on *three separate levels* in the one seam? A scheme of haulage to a skip-hoisting shaft overcame that. What if the coal *was* so dirty that every pound of the mine's output required washing? What if the nearest good water supply *was* miles away? Beating nature at Edgewater was a matter of combining brains and capital in a mining system and a plant good enough to overwhelm all handicaps.

SOMEONE BOUGHT ALL THIS EQUIPMENT to make Edgewater what it is—a modern, electrified mine. Manufacturers capable of aiding a coal company in an enterprise like this naturally want to keep closely in touch with such buyers. How can they best do it? It is a suggestive fact that 44 executives and lesser officials in the Tennessee Coal, Iron & R.R. Co., from the general manager of mines down, are readers of *Coal Age*. So much for the influences that shaped the buying policies at Edgewater.

TO KNOW THE BUYING HABITS OF INDUSTRY generally there is no better tutor than the special marketing service the McGraw-Hill Co., Inc., publisher of this magazine and 14 others, is offering in a series of full-page advertisements now appearing the country over. The assistance that can be gained from this company's 50 years' familiarity with industrial purchasing, summarized in a recent survey, is outlined in "Industrial Marketing" which is now being distributed upon request to manufacturers serving McGraw-Hill industries.



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Devoted to the Operating, Technical and Business  
Problems of the Coal-Mining Industry

R. Dawson Hall  
*Engineering Editor*

Volume 28

NEW YORK, AUGUST 13, 1925

Number 7

## Lewis Breaks Off Negotiations

NOTHING MORE FOOLISH and suicidal has been done by the mine workers than to break off the parley with the operators. The public is staggered to think that John Lewis and his co-workers want a strike. We will not arbitrate the matter, they said at first. Now they add: Nor will we confer with you unless you are ready to make concessions to us. If only Mr. Lewis had been able day by day to record a triumph to his anthracite supporters he would have consented to a parley, but to meet men who give way on nothing angered Mr. Lewis and he and his committee withdrew.

It has come, then, to the point that the operators are allowed to discuss wages with the United Mine Workers of America only when they are ready to make concessions. They must not discuss them in the hope of lowering scales or of continuing the present wage rates.

The session to be held with the Mine Workers is only to determine the size of the surrender and not whether there shall be any surrender at all or whether the miners shall not surrender a little to the operators. Every two years there must be a wage advance. No "backward step" must be taken. If the increase is not granted before all the mine workers' claims are presented the parley must come to end, even before the operators have been able to make their own proposals.

The public is surprised at the arrogance of the miners. It was in doubt before; it sees the condition clearly now. Those who wish a settlement without a price increase now gain encouragement, for if public sentiment sets fairly against the United Mine Workers they have no hope to gain the 30 per cent, or larger, increase which they are demanding.

## What Will Mr. Coolidge Do?

NEWSPAPERS writing from Swampscott, Mass., where the President is staying, tell us Mr. Coolidge is threatening drastic action to settle the strike of the anthracite miners should it occur, but that the President is not yet ready to use moral suasion. He desires to wait. Apparently they would infer that he is willing to let matters drift till he conceives the public is ready for drastic measures. Meantime the papers say the President is displeased with both sides because they do not quickly reach an agreement, and that he is as much vexed with the party that would arbitrate as with the party that won't, with the party that was ready to continue the conference as with the party which broke it up.

The newspapers represent Mr. Coolidge as unwilling to get into the controversy. If he hopes ultimately to compel arbitration and select the arbitrators it may be well for him to be careful about prejudging the case, but there is no reason why he should not soundly rebuke the mine workers for refusing arbitration and for breaking up the conference. There is no reason why, as the newspapers represent him, he should

denounce both equally for obdurateness, knowing as he does that the public will forgive the mine worker and hear only that the operator is obdurate, whereas the latter is willing to submit to arbitration and is not at all intransigent.

It is clear that if the President intends to take drastic action he should be willing to "break the truth" to the public as to the situation. He should not lead the people to get a prejudiced view of the case, yet he has not helped the situation one whit. He has said absolutely nothing unless he has said it to the newspapermen, and if they reported aright what he said little could be devised that would be more likely to stiffen the attitude of the mine workers.

When the time comes to take drastic measures can they be taken against the mine workers if the latter are backed by the support of the whole union interest? It will be as useless as trying to sweep back the sea with a broom. Unless the public, the union men of the country and the other wage earners are convinced that the President is right and his policy sound his action will merely make martyrs of the miners and fail to effect anything.

Consequently we fear the drastic action will be directed at the operators, who will be pliant, of course. They always are. They will sign anything; they will accept the blame for anything they will sign. No one can condemn them. The pressure of public opinion is too heavy. What are the operators among so many? America has 110,000,000 people, and the operators are only a handful.

The industry will get a body blow and then will be sick and blamed for being sick, and later be given another body blow for being sick and always whining. The rest of 110,000,000 will regret that it has to live with such an industry. Why, they will repeat, is there a perpetual problem with the anthracite industry?

Why, indeed? Solely because we temporize. Solely because we will not face the truth. We prefer to use drastic methods with the industry than to tell the facts as they are. Great Britain has temporized and must pay a subsidy. Are we so sure of our ground that we can let Mr. Lewis' challenges go unanswered?

## Mine and Other Hazards

MORE PEOPLE have been killed in New York City already this year by automobiles than are killed in the anthracite region by mine hazards in a whole year. The New York City record for automobile accidents up to July 18 totaled 501; the fatalities in anthracite mines in 1924 were 496.

If John L. Lewis would broadcast this among the people of New York City, he would effectually meet the argument he presented at the Hotel Traymore, Atlantic City, when he first met with the anthracite negotiating conference. But this he does not want to do. His address, it will be remembered, did not plead a wage inadequate for living on the American scale

but proclaimed that it did not provide compensation for the perils of mining. Only Andrew Matthey with his large family spoke of the need for a higher wage scale. The consumers who thread the streets of New York among the automobiles of the metropolis without once seeing a fatality realize that, after all, only the totaling of the anthracite figures, like the marshalling of automobile accidents into statistics, could have resulted in the complex in the public mind which leads it to believe mining to be the most hazardous of industries.

This week we publish those workmen's compensation rates in Ohio that are higher than those of coal-mining. They are a surprise to almost everyone, though the facts have been known for years. Only the industrious publication of the facts as to the coal industry and the complete suppression of the facts regarding the construction industry have made people believe the coal mines have the leading fatality rate. After all, coal mining is dangerous, largely because it is from first to last a construction and not an established industry. It is always extending its operations. It is constantly erecting and demolishing its environing walls. It is always blasting ground. No wonder its record is but little better than that of the industry which it so greatly resembles. It probably would be worse if it were not better organized and controlled for safety by its operating forces.

### The Day of the Coal-Mining Curriculum

**M**INING education has had a period of inflation and just now is experiencing a definite shrinkage. It is necessary to analyze the causes for this condition in order to see where coal-mining education should stand.

In 1921-22 according to the U. S. Bureau of Education there were 2,895 four-year mining and metallurgical students in 121 schools of engineering. Probably the impetus given the metal-mining industry during the war accounted for this. The men who entered college in 1918 either left college before 1921 or were completing their graduating studies in 1921-1922.

In 1918 the metal-mining industries were doing well. In the years immediately following the public still had faith that the metal industries would revive. In fact after the war was over the mines continued for a time at full blast. The metal-mining industry had just received a large increase in capital provided by the banks and as a result of this industrial control, technical training was at a premium, making a college education attractive. Metallurgy had been becoming increasingly technical and, therefore, inviting to college men.

Young men who were seeking a career were some time realizing that the metal-mining and metallurgical industries could not continue to absorb the large number of men graduating. But it was evident in succeeding years that the incentive to graduation in metal mining and metallurgy had declined, for in the next year there were only 2,661 mining and metallurgical students, in 1923-24 1,898 and in 1924-25 only 1,563.

A large number of students in recent years have been seeking instruction in petroleum engineering. The petroleum industry is another occupation that has had large increases in capital with rapid progress in technique. That has made college education necessary and profitable. The rule-of-thumb methods have passed

away rapidly. The development of the industry has passed forever from the control of a class of men who believed that all that was necessary was to be able to run N 45 E lines with a compass, to be able to handle a peach limb and to be competent to bulldoze drillers, teamsters and property holders. We scarcely know the industry to be the same as in earlier years now that the college-trained petroleum engineer has recreated it.

It would appear that coal-mining is going through a similar transition. Capital is coming in. Technical advice is being sought and appreciated. The rule-of-thumb method and the day of "I think" or "I guess" is being relegated to the past, and there should be a good prospect for the coal-mining engineer.

The operator who rose from a mule driver or a miner, may not appreciate science. Some do, but most do not. But the industry is getting to be in charge of college-trained capitalists. They may not be trained as engineers, but they think in terms of scholarship, and they demand that college men direct operations. Equipment that can only be handled by trained men is being introduced. Consequently we can look for college men to be in the ascendent as they are in metal mines.

At one property and not a really large one with, perhaps, six mines are 32 college men. This property is operated by a metal-mine company. It is being run like a metal mine. This is significant of the future. What we wish to know is whether the young coal-mine men will recognize the change and fit themselves for the new conditions or shall we transfer men from the metal mines, who are available to execute plans which coal men have not education enough to put into actual practice?

The anthracite industry long well capitalized by banking concerns and long operated on a relatively high technical basis has a large number of college men in its personnel. The chance for the man without college training is not good in most companies. Those who have risen from the ranks without technical education, surround themselves with men who have such training and admit that had they entered the industry a few years later the ladder by which they climbed would have been far too short to have reached up to the positions they have attained.

Each year a few of those rungs are removed and in a few years even the foremen may find that only the ladder of technical education will reach up and beyond that occupational level. Even today there are foremen who are felt to be hindrances to progress. As they die off their places will, in many cases, be filled by college men, who will be more receptive to modern ideas and better equipped to make such ideas operate successfully.

The day of the coal-mining curriculum is at hand. He will not be a wise young man who will fail to recognize that fact. We are saying of college education what has been said and truly said for many years of a lower standard of education—the mining institute and the summer courses in coal mining.

### COAL AGE INDEX

THE INDEXES to COAL AGE are furnished free to all who ask for them. The index for the first half of 1925 is now ready for distribution. A copy can be had by addressing a postcard to the subscription department of COAL AGE.



# Susquehanna Collieries Co. Is Rapidly Modernizing Its Properties and Making Savings

Redesigned Equipments Make Possible Most of Electrifications Economies — Unsalable Sizes of Coal Generate Power Cheaper than It Can Be Bought

By Edgar J. Gealy

Associate Editor of *Coal Age*  
New York City

**W**ITHIN the last eight years few if any anthracite companies have made more rapid progress toward complete electrification and modernization of their mines than the Susquehanna Collieries Co., of Wilkes-Barre, Pa., a subsidiary of the M. A. Hanna Co. Ever since 1917, when the property was taken over by the present interests, both the officials of the parent company, at Cleveland, and the mining company officers have been exerting every effort to modernize its operations. Today it has surpassed its big brother producers in many respects and is therefore prepared to compete successfully in the battle against increased mining costs, substitute fuels and other economic problems.

What is perhaps more significant, however, is the fact that the company is accomplishing many of those things which other mining companies have persuaded themselves could not be done.

Today the company is burning for its own use slush—finer coal than the smallest now being sold—thus being able to send to market thousands of tons of small size fuel formerly burned at the mines. The company is generating electrical energy from pulverized anthracite at a cost much lower than that at which it can be purchased, even after charging liberal interest and depreciation rates against its own plant.

Changes to the mining equipment are being made with no delay to the production of coal. Old steam-driven hoists and fans are still being converted to electric drives without the necessity of installing new hoist or fan units or erecting new buildings. In short, the company is obtaining most of the direct savings and other benefits of electrification and modernization without the large expense involved in making complete new installations.

To the critical eye of an outsider it is true that some of the company's properties do not appear to be models

of perfection; however, when it is considered that, oftentimes at many mines, the urgency for an improvement due to losses sustained by old machinery makes prompt corrective measures necessary, there is apparent a good economic reason which justifies outward appearances. If a steam-driven mine fan must be changed to electric drive on a Sunday or some other holiday, or power losses under old methods are too great to be allowed to continue, then there is plenty of reason for not waiting to construct a handsome building. Besides, when a certain amount of money is available for modernization sometimes it is best to spend it for the greatest result-getting, savings-making changes. Appearances may be improved later.

At the power plants of the company important pioneering work has been done. The power plant at Lytle was the first to use pulverized anthracite, and the success attained with fuel in this form at this plant and also at the power house near Lykens may revolutionize power generation from anthracite and prompt many other coal companies to make savings in their power bills in the same manner.

The company is divided into five major divisions, each of which is independent of the others in so far as its source of power is concerned. The Wyoming district, near Wilkes-Barre, is supplied with power from the coal company's electric plant at Nanticoke. The Shamokin power house supplies electrical energy to mines in its district. The pulverized-fuel plant at Lytle furnishes energy for the Lytle Coal Co., operated under the same management. The Lykens pulverized-fuel plant, at Short Mountain, supplies electrical energy to the Lykens district. The power requirements in the William Penn district are taken care of locally. The electric generating capacity at the four main power stations is shown in Table I.

From this table it is apparent that the power system

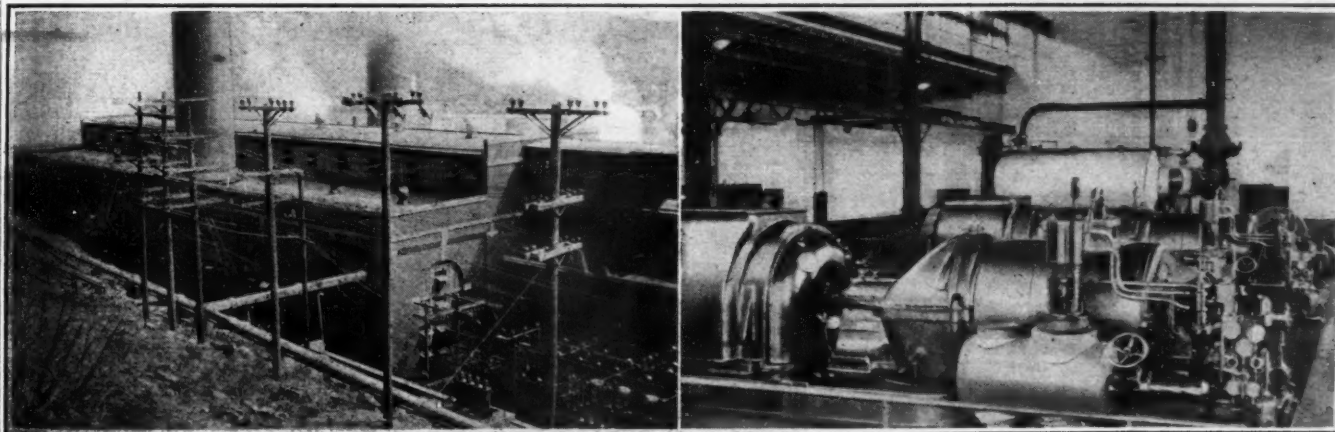


Fig. 1—Lykens Plant and Turbo-Generators. Here Large Scale Pioneering with Pulverized Anthracite Is Going On

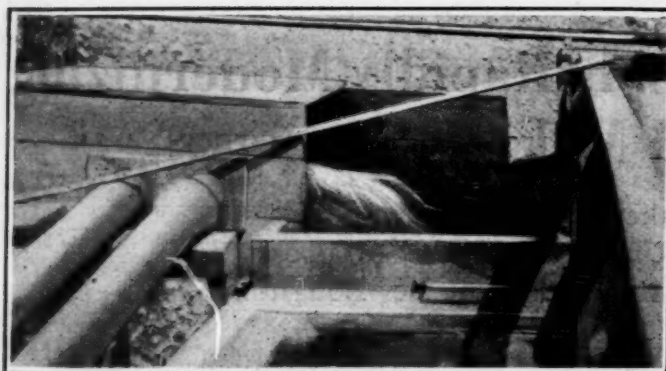


Fig. 2—Liquid Anthracite and Storage Boom Near Power House Keep Busy During Working and Idle Periods

At the Lykens power plant, V. V. Secor, "liquid anthracite." All the fuel used for the plant superintendent, calls the fluid generating steam is transported to the power house by pumps. The coal is so fine that it can be pumped with the wash water used in the breaker and washery. On the right is shown one of the storage booms.

Table I—Capacity of Main Power Plants

Location	Size of Units	Total Capacity
Nanticoke.....	2—4,000 kva.	8,000 kva.
Shamokin.....	2—3,750 kva.*	7,500 kva.
Lytle.....	{ 2— 625 kva. }	2,187 kva.
Lykens.....	{ 1— 937 kva. }	8,000 kva.
Grand total.....	2—4,000 kva.	25,687 kva.

\* At present there is boiler capacity here for one unit only.

of the company is greater than that of some of the largest mining companies in the anthracite region. Table II shows the total amount of energy generated at these plants during 1924.

Table II—Energy Generated in 1924

Location	Kw.-Hr.	Location	Kw.-Hr.
Nanticoke.....	19,494,580	Lytle.....	5,992,145
Shamokin.....	22,878,000	Lykens.....	32,548,280

At the Shamokin power house, in addition to the energy generated there, 13,350,558 kw.-hr. of electrical energy was purchased last year. It is interesting to note that with this arrangement, the coal company's Shamokin generating unit had a yearly load factor of 88.5 per cent.

That it is possible to obtain high machine-load fac-

tors on anthracite mine electric equipment also is illustrated by results in this division. The total connected load of the Shamokin district is 16,460 hp., or approximately 12,330 kw. The 24-hr. power consumption is about 120,000 kw.-hr. This indicates a 24-hr. load factor of 41 per cent or based on 8 hr. per day, a load factor of 123 per cent on a full working day.

At some of the power plants a power factor of 96 per cent is attained during the day and about 90 per cent at night. This fine condition is made possible by the use of large synchronous motors on many types of drives. Most power-converting equipment consists of synchronous motor-generator sets. Air compressors are equipped with synchronous motors and many of them are of large capacity. Thus it has not been necessary to float synchronous condensers on the lines to correct poor power factor conditions.

Each of the power plants, except the Shamokin plant, has a tie connection with a nearby power company, however; this is for emergency service only and is reciprocal. For example, the contract covering the exchange of energy between the Nanticoke plant and

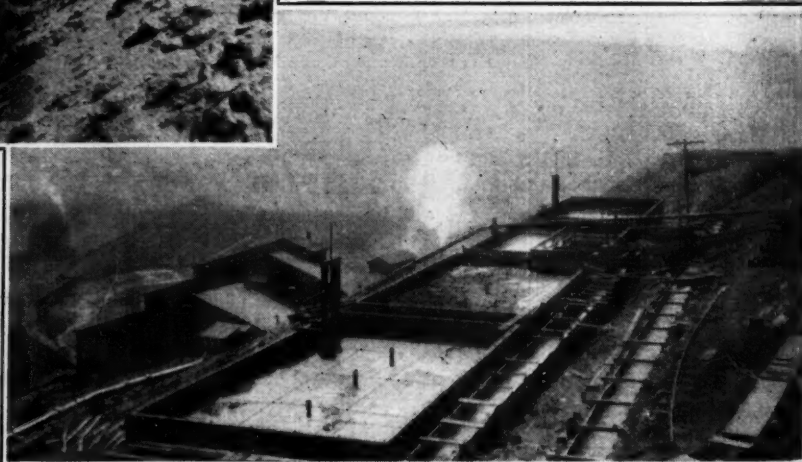


FIG. 3  
Mountains of Fine Size Coal  
Await the Grinders

On the left is shown the "Black Alps." They are mountains of fine-size fuel ready to be pulverized in the mills supplying the boiler plant.

#### Last Traces of Fuel Are Taken Out in Set- tling Tanks

The water which carries the fine coal to the storage plant passes through these settling tanks before being returned to the breaker and washery. This is necessary so as to obtain good preparation for the marketable sizes.





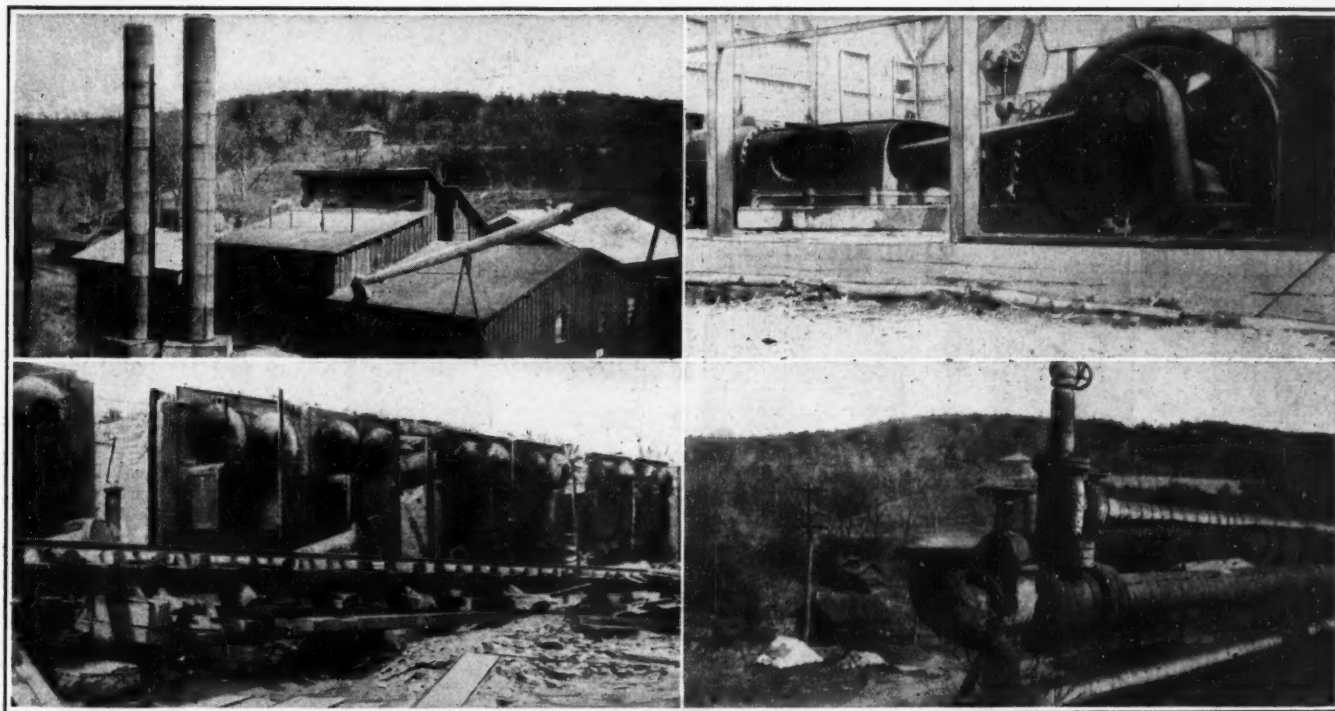


Fig. 4—The Passing Review and What Goes with It

Old fashioned inefficient steam plants, long steam lines and steam-eating engines no longer have a place in the march of progress. They are passing out in favor of modern electric

power generating units and motors which use energy only when in service and transmission lines which do not try to heat the whole outside world.

the Luzerne County Gas & Electric Co. has been made purposely high so as to force each party to the contract to stand on his own legs throughout as large a part of the time as possible.

The thought of electrofying shaft hoists usually throws a scare into the minds of some engineers and company managers. The size of the present old-type steam engine, its high speed and the large building it requires make many of them grow faint when they think of the costs involved in any change.

Yet the Susquehanna Collieries Co. has electrified some of its shaft hoists at relatively low costs and is realizing large power savings thereby. The engineers determined first of all that whatever improvements were to be made on their hoists should not interfere with the steady operation of the mine. They also found that many of the hoists could be operated at slower speeds and thus use smaller motors than appeared necessary before a test was made. The possibility of obtaining higher load factors for the hoists meant much in determining the size of the motors; consequently good power factor conditions and low peaks on the power plants have resulted.

Many beneficial results usually not given due consideration when planning the electrification of a hoist also have been obtained. Slower speeds have reduced the stresses and strains on the equipment and thus maintenance costs have decreased. The rotary motion of the electric motor produces none of the vibrations common to steam engines with their rapidly changing reciprocating action. In the words of some of the shaft repair men: "You can hold the cage guides with 10-d. nails since the hoists have been electrified."

The flow of coal to the breaker also has been made more uniform with electric hoisting, which makes better preparation possible. Maintenance costs of hoisting cables have decreased. With high-speed steam engines the slippage of the rope on the sheave wheel while starting and the slippage of the wheel due to its inertia

when the hoist is stopped caused excessive wear not now experienced.

The ease with which the motorized hoists are operated makes few if any of the old steam-hoist engineers, now operating electric machines, care to return to the steam-driven units. Some of the oldest engineers who have operated steam engines for more than thirty years have adapted themselves to electric hoists as easily as a duck takes to water.

By abandoning individual isolated boiler plants, which furnished steam through long, inefficient steam lines to hoists, fans and compressors, large savings have been made. All of these old engines formerly operated non-condensing and many were installed with overload capacities far in excess of any demand that ever arose.

How these installations were changed to electric drives without interfering with the operation of the

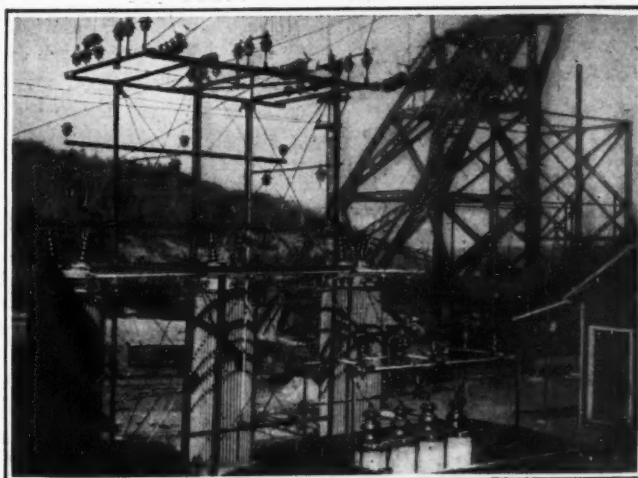


Fig. 5—Newly Constructed Substations Make Mines More Modern

At No. 7 shaft, near Glen Lyon, three 400-kva. transformers step the voltage from 22,000 to 2,200. The large-capacity substation is already proving too small for the increasing electric load.

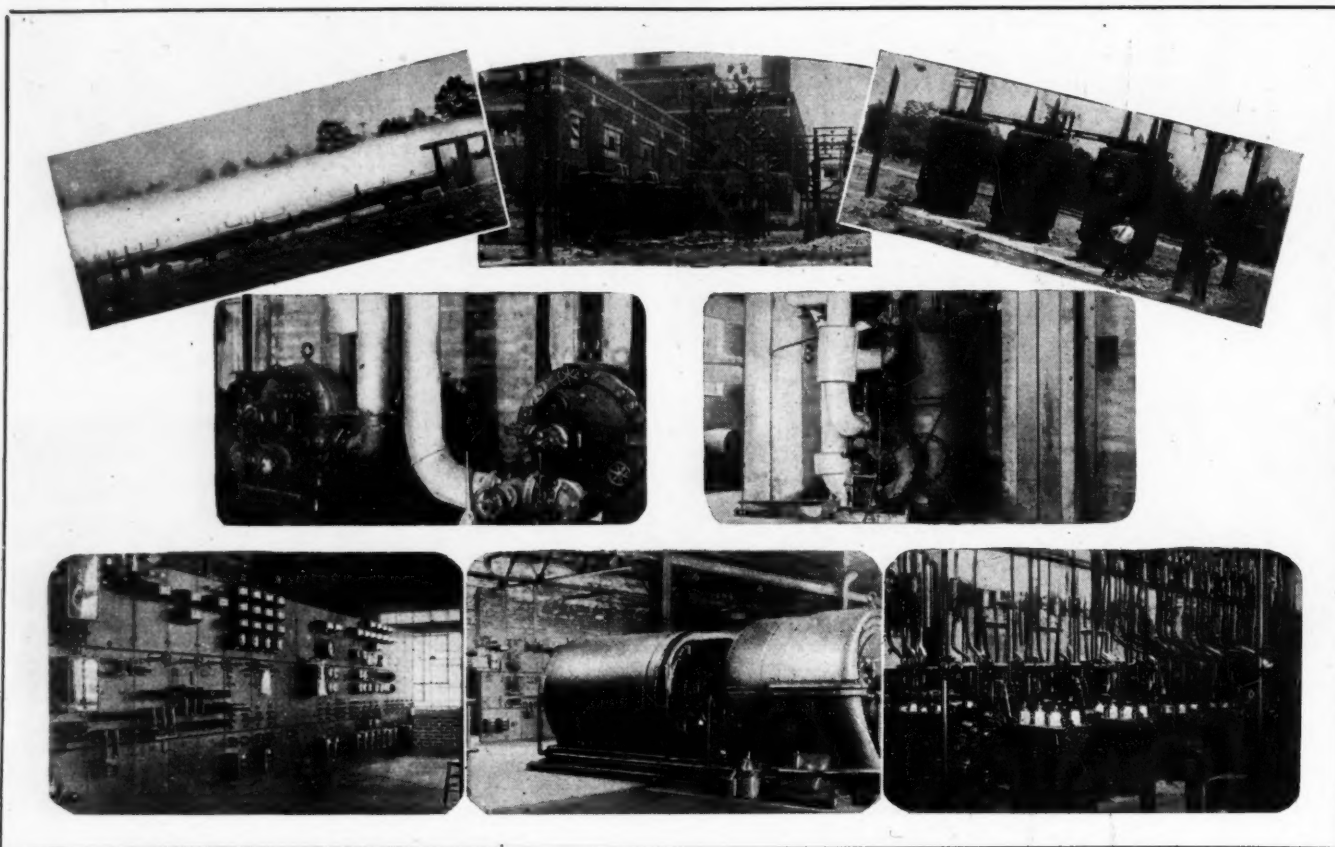


Fig. 6—The Shamokin Power House with Its Modern and Recording Breaking Equipment. Any Power Company Would Be Justifiably Jealous of Its Load Factor

In many respects this is one of the most wonderful power-generating plants in the coal regions. For many days and nights the turbo-generator unit operates at 100 per cent load factor. Large pumping loads come on at night when the breaker and

hoist machinery ordinarily stops. Last year the plant had an all-year load factor of 88.5 per cent, including during the period every minute of the time. These pictures show how modernly it is equipped. Solenoid-operated switches operate the circuit

breakers which connect to many feeders and supply lines. The plant is tied in with a public-utility company operating in this district. A spray pond cooling system is used and thus only a small quantity of water is necessary to operate this plant.

mines is most interesting. Machines designed when electric motors were almost unknown are now rejuvenated and the engineers who have done the work have used electricity. A few examples show how each installation was a problem in itself.

At Stearns No. 4 shaft the main hoisting equipment was changed from steam to electric drive. Originally the hoist was driven by a first-motion steam engine.

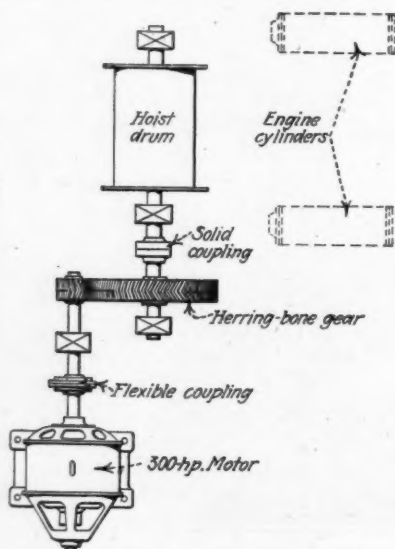


Fig. 7—An Old Steam Hoist Electrically Operated

Isolated boiler plants which were costly to operate were completely abandoned. This hoist, at Stearns, was equipped with herringbone gears and an electric motor.

The two steam cylinders were located as shown in Fig. 7. All the work preliminary to the change to electric drive was done while the steam hoist was in daily operation.

A large solid coupling was provided for attaching the drum shaft to the reduction gears driven by the motor. These gears are of the herringbone type. The motor is a 300-hp. 2,200-volt slipring induction type unit. An automatic weighted airbrake is applied whenever power fails. In this manner the electrified hoist is made safer than with the steam drive.

Another large-size hoist was changed to electric drive at the No. 7 shaft of No. 6 Colliery, at Glen Lyon, Pa. A 400-hp. induction motor drives the hoist through herringbone gears. Connected to the high-speed shaft is a gear-type overspeed tripping device which gives all the protection obtainable by steam operation. The layout is shown in Fig. 8.

An interesting change-over was made at the fan house at Stearns. Here the former steam engine was supplanted by a 75-hp. 2,200-volt induction motor connected through an automatic starter. Whenever power is restored after a shutdown on the transmission line the automatic starter sets the motor in operation immediately without any manual operation.

Fig. 9 shows how the old steam engine frame is used to support a bearing box which carries one end of the fan shaft. Suitable speed reduction is obtained by means of a silent-chain drive running in an oil-tight casing.

No. 7 shaft fan house, near Glen Lyon, was altered



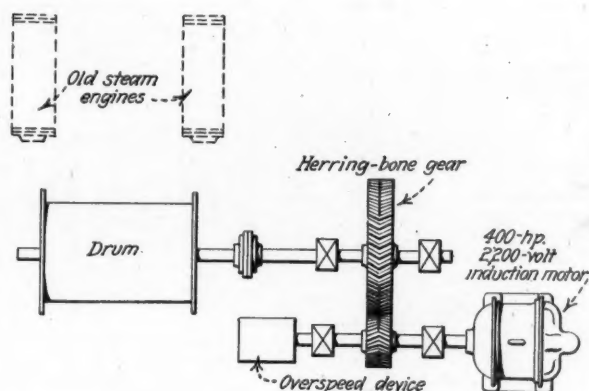


Fig. 8—Main Shaft Hoist Rejuvenated

The automatic speed and over-hoist control equipment supplied with the motor which now drives this old steam hoist makes a simple outfit easy and safe to operate.

but little when an electric motor replaced the old steam drive. Practically nothing was taken out of the engine house when the change was made. As shown in Fig. 10, a split pulley was mounted on the old fan shaft and belted to a 75-hp. 2,200-volt motor. The installation looks peculiar because the steam engine remains in position, but its crank has been disconnected. The old engine bearings support the fan shaft.

The Mill Seam fan house, at Nanticoke, was driven by a cross-compound steam engine which received its steam from a separate boiler house maintained and operated for this fan only. The fuel was freighted over the Pennsylvania R.R. from the breaker, nearly half a mile away, to the fan boiler house.

When it was decided to electrify this fan, an investigation showed that only one of the two engine cylinders was required to carry the load. Thereupon one cylinder was disconnected and an alternating-current induction motor set up on the old foundation. A countershaft was then installed and everything was made ready to change from the giant oversized steam engine which had driven the fan for years. On a Fourth of July morning this work was started and completed in 12 hours, not a single moment of production being lost by the mine. The motor is a 75-hp. 2,200-volt three-phase, 60-cycle unit. Fig. 11 shows the location of the old fan engine (dotted) and the layout of the present drive.

Some idea of the extent to which electrification has been carried can be gained from what has been done at the Williamstown operation, near the town of Williamstown, in the Lykens district.

This operation consists of three parts, one including the breaker, another the Big Lick operations and the

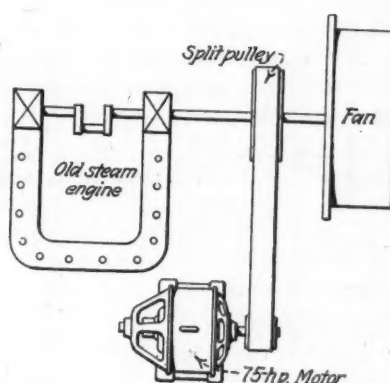


Fig. 10—Electrified Though Little Changed

A split pulley was mounted on the fan shaft and the change from steam to electric drive was completed without interference to coal production.

other the territory at Nos. 1 and 2 shafts in Bear Valley. Exclusive of many direct-current machines such as locomotives, etc., the total alternating-current connected load amounts to 11,313 hp. The distribution of this equipment is as shown in Table III and Fig. 12.

Table III—Distribution of Alternating-Current Connected Load

AT BIG LICK							
Hoists	Pumps	Fans	Con- verting Units	Com- pres- sors	Misc.	Total	No. of Machines
1,360	32.5	82	275	485	.....	2,234.5	13
AT BREAKER							
	207.5	....	....	....	405.5	613.0	9
AT BEAR VALLEY							
1,240	4,842.5	225	870	1,288.1		84,65.6	29
2,600	5,082.5	307	1,145	1,773.1	405.5	11,313	51 Totals

This colliery has what is perhaps the longest outside electric locomotive haulage system in the coal fields. From the Big Lick territory coal is hauled about 2 miles along the side of a mountain to the breaker. Extending in the other direction to the No. 1 and 2 shafts territory is another long outside haulage track which extends from the breaker through a 4,000-ft. tunnel to the other side of the mountain and then about a mile to No. 1 shaft.

Incidentally, this tunnel is one of the finest in the anthracite field. It runs through the mountain from the breaker to No. 2 shaft. The grade is slightly in favor of the loaded cars. The haulway is as straight as an arrow. Very little timber is used to support the roof in the tunnel because it was driven with hand tools at a time when heavy explosive charges, which ordinarily shatter the rock, were not used. The tunnel

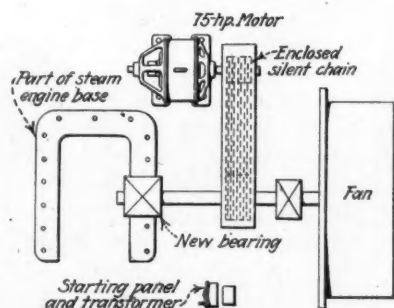


Fig. 9—Automatic Control Replaces Steam Drive

Not only was the inefficient steam engine supplanted by an electric motor here but an attendant was eliminated also. The fan is now driven through a silent chain and the motor is automatically controlled.

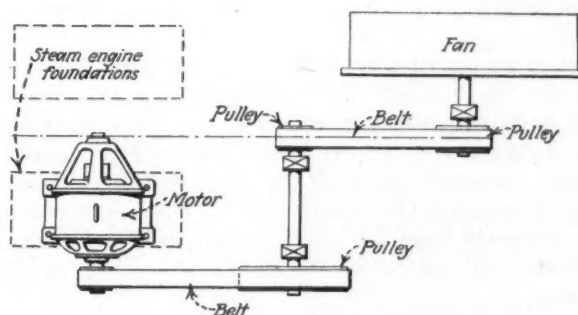


Fig. 11—How a Fan Drive Was Remodeled

This new arrangement was effected in 12 hours on a holiday, hence no operating time was lost by the mine. The fan house is bigger than now necessary but large savings are made as a result of this quick change.

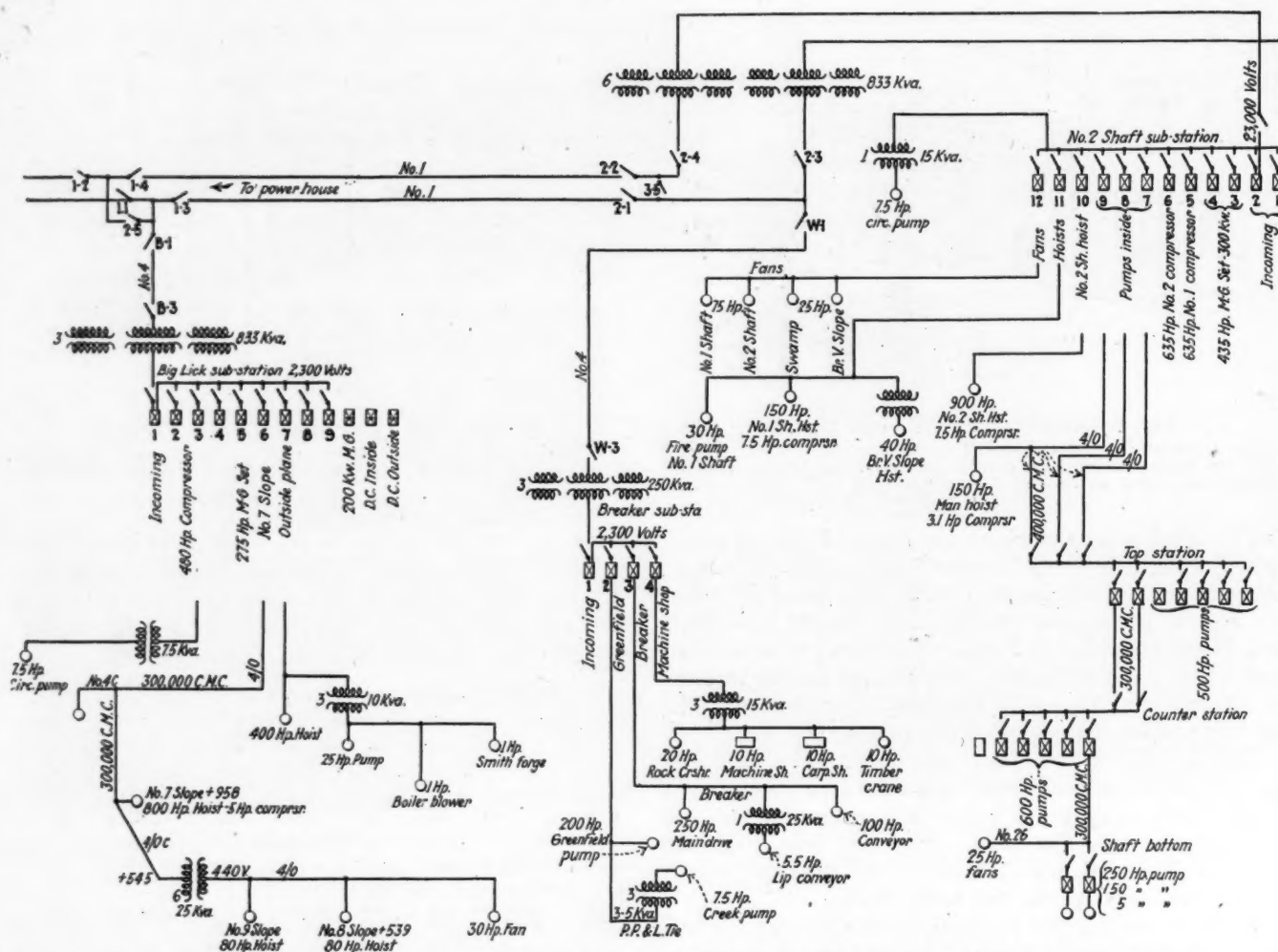


Fig. 12—Where in the Whole Mining Field Is There a Larger Motor Load Than Here? This Mine Has a Connected Load of Alternating-Current Motors Greater Than 11,000 Hp.

Each of the main divisions of the Williamstown Colliery is supplied with 22,000-volt electrical energy generated at the Lykens pulverized-fuel plant. The large pumping load makes possible a good all-day load factor. Most of this colliery is now electrically operated.

was started in the year 1860. It is said that many of the workmen employed on the job at that time dropped their tools and plied their trade with General Grant.

Before the coal is delivered to the locomotives at Big Lick it is raised on an outside plane by a 400-hp. electric hoist. At this same section is an 800-hp. electric hoist and a 480-hp. compressor motor, besides other important machines, as shown in Fig. 12.

All the machinery in and around the Williamstown breaker is electrically operated except an outside plane and slush pump. When the change was made from steam to electric drive at the breaker one 250-hp. three-phase 60-cycle slipring induction motor replaced the old steam engine that formerly drove the breaker machinery.

The most interesting part of the property, however, is at the No. 2 shaft, where there is an eight-compartment shaft which no doubt is the only one in existence. Four hoisting engines are used. Steam-driven hoisting engines formerly stood in the four different hoisting positions around the headframe. Four compartments were formerly used for hoisting coal and four for raising water by means of buckets. The shaft is 1,650 ft. deep.

At present this shaft is in a state of change. One steam hoist operates to the bottom level and an electric hoist works to the counter level. Water is now raised by means of pumps. An unusually large compressed-air line runs down the shaft.

The electric hoist is shown in Fig. 14. It has a 14-ft. drum and is driven by a 900-hp. induction motor at a rope speed of 1,500 ft. per minute. This hoist drum is the largest-diameter unit of its kind in the anthracite region.

The compressors supplying the high-pressure air are two 3,300-cu.ft. units which discharge into two 5x18-ft. receivers. The main air lines entering the mine consist of 400 ft. of 14-in. and 1,600 ft. of 12-in. pipe, a large receiver system in themselves.

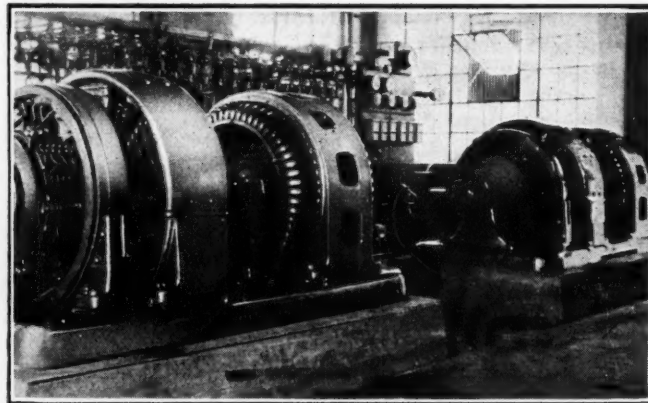


Fig. 13—Large Motor-Generator Sets Help Maintain Good Power Factor Conditions

These units serve the long haulage system at No. 2 shaft, near Williamstown, Pa. In the same building are two synchronous motors driving air compressors. Such apparatus prevents bad power factor loads.



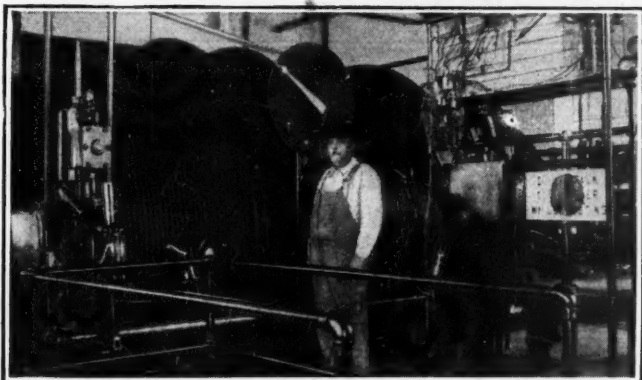
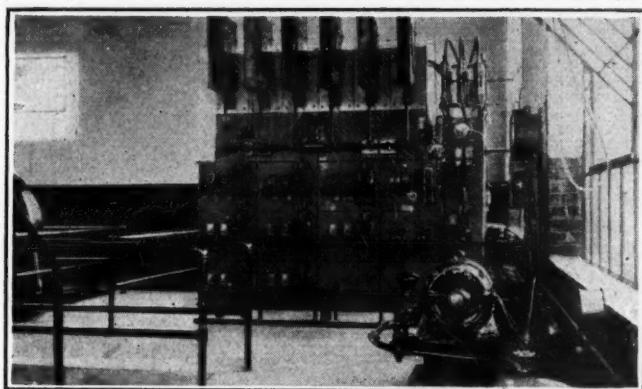


Fig. 14—Giant Hoist Which Operates Two Compartments of an 8-Section Shaft

The picture shown below illustrates the 14-ft. drum hoist and its protective equipment. Above is the 2,200-volt electric control panel and compressed air unit which operates the brakes.

## Pumping Mine Water Promptly Reduces Corrosion of Metals

By Joseph A. Shaw\*

Within recent months two scientific papers have emphasized the part played by oxygen in the acid-corrosion of metals, indicating that prompt pumping of mine water reduces corrosion of metals exposed to this water. Whitman and Russell<sup>1</sup> found that mild steel was corroded in an oxygen-saturated dilute sulphuric acid solution more than eleven times as fast as in the absence of oxygen; and copper, tin and nickel were corroded in an enormously higher ratio. Hall and Teague<sup>2</sup> obtained results on mine water that in general are in complete accord with those of Whitman and Russell on pure sulphuric acid.

Hall and Teague find that ferric salts act in much the same manner as free oxygen, at least they increase corrosion materially.<sup>3</sup> To quote from page 9, "In acid mine waters, on the other hand the rate of depolarization is no longer dependent solely upon the concentration of dissolved oxygen; in most waters of this type, in fact, the concentration of ferric iron is the dominant element in the oxidation at metallic surfaces, and the rate of corrosion becomes a direct function of such concentration." And on page 57 in speaking of tin,

The pumping equipment inside the mines at No. 2 shaft constitutes the largest group of pump units draining any one mine in the coal region. The shaft is so deep that it was considered advisable to relay the water out of the mines. Several ingenious schemes have been used to keep the cost of pumping as low as possible. All the pumps are equipped with diffusion vanes so as to cause them to operate at the highest possible efficiencies; the sumps have been arranged to permit much of the silt in the water to settle before it is pumped; no water is allowed to flow needlessly to a low level and then be pumped, and the water is raised no higher than necessary to cause it to flow out of the mines.

Two main pumps are located at the shaft bottom. These consist of a 250-hp. and a 150-hp. unit which are primed by a 5-hp. vacuum pump. At the counter level four large 600-hp. pumps raise the water collected at this level and that pumped from the shaft bottom to the so-called top station. From the top station the water is again raised by four eight-stage centrifugal pumps which lift the water to the top of the shaft, which is about 80 ft. above the tunnel level. Part of the water flows to the Williamstown breaker through the tunnel and the remainder into Bear Valley.

These are merely some of the means by which this company has been effecting savings and modernizing its properties. Quietly but rapidly it has been blazing the trail toward better mining methods. Although the company has accomplished a great deal in this direction it has completed only a small part of its program and much yet remains to be done.

Hall and Teague say that as in the case of copper, increasing the acidity has little effect so long as the oxygen concentration is not increased materially, but that when it is increased by ferric iron, the rate of corrosion is enormously increased.

In other words, as Dr. Hall has expressed it, a container full of mine water is a storage battery which becomes charged by remaining in contact with the air instead of having to be put in electrical contact with a generator. When a piece of metal is placed in oxidized mine water, differences of potential are set up and the storage battery discharges with disastrous effects to the metal. These effects are similar to the action on the anode metal of an electro plating cell, though in this case the conditions are not right for the deposition of the metal as such at the opposite electrode.

The longer the mine water is exposed to the air the higher becomes the concentration of these oxidized iron salts and the higher becomes its corroding potential. For, of course, it is the concentration of oxidized iron salts rather than the total quantity present that affects the corrosion rate.

Therefore, any system of handling mine water as quickly as possible after it gets into the mine should be subject to smaller corrosion losses than a system that allows the water to collect and pumps it out only at such times as are absolutely necessary for the working of the mine.

It is realized that in many instances engineering objections will necessarily overrule the adoption of any change in the pumping system. But it is also believed that in many instances a little consideration of this matter will save considerable annoyance and expense from corrosion.

\*The Koppers Co., Laboratories, Mellon Institute, Pittsburgh, Pa. Pennsylvania.

<sup>1</sup>"The Acid Corrosion of Metals," *Ind. and Engr. Chem.*, Vol. 17, p. 348.

<sup>2</sup>"The Effect of Acidity and Oxidation Capacity on Corrosion of Metals and Alloys in Acid Mine Water," *Bulletin 15, Coal Mining Investigation, Carnegie Institute of Technology.*

<sup>3</sup>High chrome steels are an exception to this well nigh general weakness to an oxidizing attack, but their cost, of course, limits their usefulness.

## Semi-Portable Dump Solves Refuse Disposal Problem

Electrically-Operated Device for Handling Rock Can Be Slid Along Track, thus Making Side Discharge of Cars Possible

By J. H. Edwards

Associate Editor of *Coal Age*,  
Huntington, W. Va.

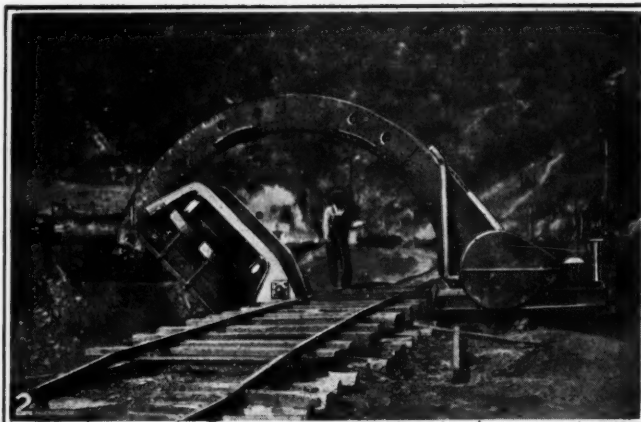
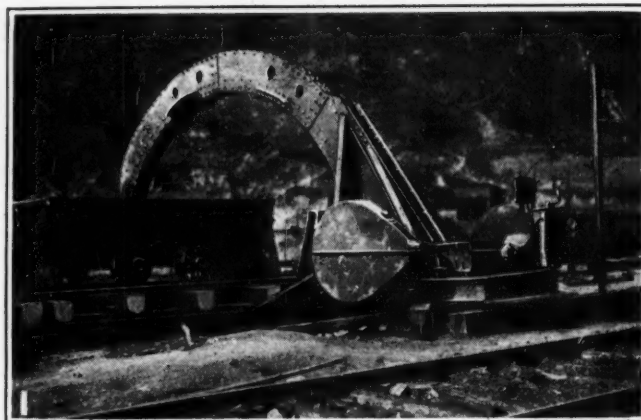
Dumping slate or rock from the end of a trestle out of solid-end cars is more difficult than if the cars were of the swing- or lift-end-gate type. Those drift and slope mines which use rotary dumps are confronted particularly with this difficulty. However, the dumping from the end of a trestle with any type of car in most cases is a tedious method. When refuse of slate and rock is to be used for grading and extending the yard in a direction parallel to the existing tracks, then it has been the usual practice, regardless of the type of mine car, to unload the refuse by hand and shovel. This laborious method always worries the progressive mine foremen or superintendent who is trying to reduce his mining cost.

H. H. Braden, mine superintendent of the Blue Diamond Coal Co., of Blue Diamond, Ky., was bothered by his dumping problem but now he feels that it is well solved. This was accomplished by the designing and building of the semi-portable side dump shown in the accompanying illustrations. Two of these dumps, the first of their kind ever built, have been in use for about three months at Blue Diamond mine.

Referring to the accompanying illustration (2), it will be noted that the machine proper is essentially a motor-driven rotary dump with the pivot somewhat above and to one side of the rail. The dump is semi-portable and simply sits on top of the track, the car platform being but a few inches above the track rails. The two sections of the track which form the approaches are entirely separate from the machine. The ties of these sections are notched on the bottom side so as to hold the approach rails in line with the track. Whenever it becomes necessary to move the dump, the approaches and the machine are slid along on top of the rail.

A 6½-hp. (intermittent rating), compound-wound, interpole motor connected to the mine trolley furnishes power to operate the dump. The machine is equipped with a drum controller and a hand brake. The free end of the dumping platform is connected to an endless roller chain which operates through the arc of the curved boom, the idler sprocket being mounted in the extreme end. From the illustration (2) it might be guessed that the controller end of the dump would have to be heavily counterweighted but this is not true, for the fulcrum is at the track rail near the platform pivot, and, moreover, the greater portion of the load is out of the car before it passes beyond the vertical.

The old and the new methods are shown in the illustration (3). On the end of the trestle in the background can be seen the overturning dump formerly used. This dump required considerable man power, which item together with the time taken to push each car out on the trestle and back again made the dumping a slow and costly process. In addition to these disadvantages, the old method had that of depositing the refuse in a line perpendicular, rather than parallel, to



Semi-Portable Dump in Operation

(1) The car goes on the dumping platform to be overturned sideways. When the refuse pile is built up as far as possible at this point, the dumping machine with its approaches will be skidded a short distance on top of the track to a new position. (2) The car is tipped to the extreme position. The wooden ties of the dump approaches are notched on the bottom so as to hold the sections in line with the track. The fact that the dump is of the cross-over type simplifies the handling of cars. (3) In the background is the trestle and overturning dump formerly used. Here the refuse is deposited in a line perpendicular to the main track rather than parallel as is desired when building yards or when the dumping space is limited by lack of depth. Although the car being dumped in the foreground has not reached the vertical, a large portion of its load has been discharged.

the mine yard. In the foreground can be seen the refuse that has been dumped by the new machine. Metal-covered skids are used to help carry the material, thus prolonging the dumping per setting of the machine.

This dump is of the cross-over type, which is one of its distinct advantages. The cars of slate are switched onto the dump siding as they are brought out of the mine. Then, after being run over the dump, the empties are in line ready for the return trip. Since it has been put into use the dump pictured has been handling up to 100 cars of slate per day.



## In Ohio Sixty-Nine Industries Pay Higher Compensation Rates than Coal Mining

Yet Mining in Ohio Is More Hazardous than the Average for the Whole Nation—Window Cleaning Rate Eight Times that of Mining—Wrecking and Painting Bridges Five Times

By R. Dawson Hall

Engineering Editor, *Coal Age*

**I**S MINING the most hazardous industry? That appears to be a belief common among the general public, but the compensation figures do not seem to substantiate this notion. An analysis of the figures for Ohio, has been compiled from "The Ohio State Insurance Manual" for July 1, 1924, with the figures corrected according to the 1925 schedule, excluding all occupations that were omitted in that later table. In this book can be found 723 classifications. In 69 cases the scheduled rates are higher than for coal mining taken as a whole but omitting the groups engaged in culm, slack and coal-refuse washing, strip-pit mining, taking care of idle mines and acting as coal-mine committeemen. All of these are occupations rated less hazardous than coal mining.

Window cleaning has a rate eight times as high as coal mining and wrecking and painting steel structures and bridges over five times as high. The construction industry has a large number of counts higher than coal mining and, it should be added, a few lower. In the table none but the rates given for coal mining have been considered. In fact disregarding the five coal-mine classifications there are 649 occupations less risky than the mining of coal, none of which has been tabulated. They have been omitted from this article solely for lack of space. Perhaps attention should be drawn to the fact that shaft sinking (56), a common operation in the starting of coal mines, is more hazardous than coal mining and is classified here perhaps inadvisedly as an industry not incident to the mining of coal. The workers often do not belong to the United Mine Workers of America.

If coal mining were not treated as a composite hazard but as one broken up into several distinct hazards, many of these risks would exceed the risk of coal mining taken as a whole, but many would be far lower.

### DISEASE HAZARD IS LOW

It should be remarked that the disease hazard, which has recently been added and which has been taken in this computation without change from the 1924 manual, is not as yet scientifically computed on the five-year experience. It is added to the accident rate to make the total rate. In all cases, however, it is so small that, though it does put some of the hazards out of the order they would otherwise occupy, it does not raise any of them to a level above that of coal mining in general. Thus if they were omitted in the calculation they would not reduce the number of hazards which are estimated as greater than coal mining.

It will be noted that the lowest figure set by the Industrial Commission of Ohio—namely, one mill per \$100 of payroll—has been apportioned to coal mining. The rate for the lead-using industries, including painting, is 400 times as large, and for the rubber industry

100 times as large, which shows how the commission rates the disease hazard in the State of Ohio. Whatever the disease rate may be in Great Britain and in Europe in general, in the United States it is so low as to be practically negligible.

It may be said that mining in Ohio is perhaps a relatively safe occupation as compared with other states. But that is not so. The number of fatalities is early obtained but we are longer in getting the number of employees. It is therefore necessary to go back to 1923. The record shows that in that year the number of fatalities per one thousand 2,000-hour workers was 3.96 whereas for the Pennsylvania anthracite field it was only 3.01 and for bituminous mines in general 3.84.

### DANGERS IN OHIO ABOVE AVERAGE

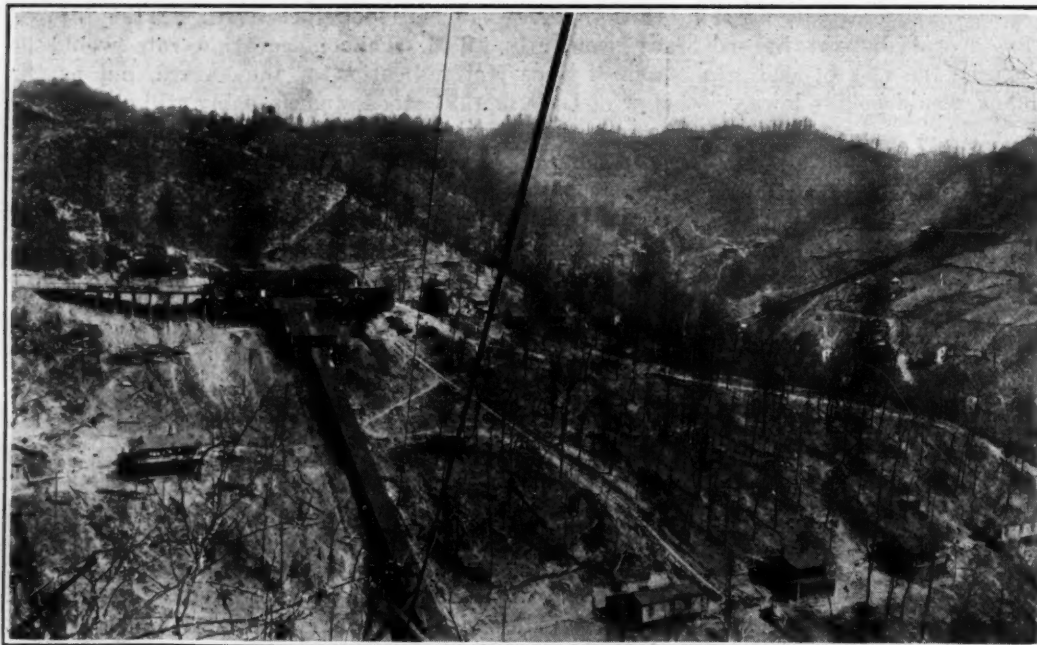
The fatality rate in Ohio from 1919 to 1923 inclusive per one thousand 2,000-hour workers was 3.99, for the anthracite region 3.27 and for the whole of the United States 3.53. Thus it is obvious that the dangers of coal mining in Ohio are certainly not the lowest in the country and that Ohio therefore is not a state to be chosen by a propagandist who might try to prove coal mining less dangerous than some say it is. The Ohio facts speak for themselves. Mining is more hazardous there than in the United States in general, yet among industries it is rated only seventieth in point of risk to the workers.

It must be remembered that the compensation rates are not so much indexes of the operating hazards as of the amounts paid as a result of the hazards. Were the sums paid for injury or death proportional in every case to the wage earned before death by the injured or accidentally killed, the compensation rate would be almost a perfect indication of the hazard, but as the law of Ohio in 1921 stood, and probably still stands, the payment at death is 66½ per cent of the weekly wage and not over \$15 per week. Thus the comparison of compensation rates is only entirely reliable when the wage is below \$15 per week or is the same as the wage in the industry with which it is compared.

Furthermore, the law requires that the compensation for death be paid for eight years but that the aggregate shall not be less than \$2,000 nor more than \$5,000. As \$15 per week is the amount paid when the wage is \$22.50 per week it is evident that quite a few of the dependents of higher wage men do not get two-thirds of the salary of the deceased, and as \$6,240, which is \$15 per week for eight years, is more than \$5,000 it is clear that the dependents of the day worker are likely to get their \$15 for less than eight years. This will lower the compensation rate for a high-wage industry. However, with these considerations duly digested and properly allowed the tabular information is of great interest.

## Workmen's Compensation Rates of Industries More Hazardous than Coal Mining in Ohio, Effective July 1

Description of Industry	Accident Rate Per \$100 of Payroll	Disease Rate Per \$100 of Payroll	Total Rate Per \$100 of Payroll	Description of Industry	Accident Rate Per \$100 of Payroll	Disease Rate Per \$100 of Payroll	Total Rate Per \$100 of Payroll
1—Window cleaning.....	25.00	0.002	25.002	41—Stone crushers (not limestone), including quarrying with or without blasting (not otherwise classified).....	4.00	0.001	4.001
2—Wreckers (not marine).....	17.00	0.002	17.002	42—Masonry work, building chimneys only (no structural iron or steel).....	4.00	0.001	4.001
3—Painting (steel structures and bridges).....	16.50	0.40	16.90	43—Garbage works, reduction and incineration of garbage or offal.....	4.00	0.001	4.001
4—Powder M'f'rs (gun or blasting).....	15.00	0.002	15.002	44—Dredging by floating dredges.....	3.75	0.001	3.751
5—Blasting (Payroll to include the whole compensation of all employees engaged in the storage, handling or use of explosives and all men employed wholly or in part in work preparatory to blasting, such as loading, capping, connecting and firing).....	15.00	0.002	15.002	45—Boat builders, iron, concrete, steel or wood, not otherwise classified, where staging or scaffold is used, including shop and yard work.....	3.75	0.001	3.751
6—Aeroplane operation (demonstrating, testing, instructing, public exhibition, trick or stunt flying).....	15.00	0.002	15.002	46—Railroad signal, erecting or installation (not including operation of railroads).....	3.60	0.001	3.601
7—Draying and hauling of heavy machinery, etc....	13.00	0.002	13.002	47—Railroad construction, electric, horse or cable or installation of electric equipment or pole lines connected therewith, including culverts, not more than 10 ft. span, urban lines entirely within the corporate limits of one city (no tunneling or bridge building).....	3.60	0.001	3.601
8—Dynamite magazine helpers.....	10.00	0.002	10.002	48—Tar manufacturers.....	3.50	0.030	3.530
9—Erecting on corrugated iron buildings or covering buildings with corrugated iron (building already constructed, no structural steel work).....	10.00	0.001	10.001	49—Wood-tank builders (shop only).....	3.50	0.020	3.520
10—Caisson work for building and bridge foundations (payroll to include all employees working under air pressure only).....	10.00	0.001	10.001	50—Stone crushers (no quarrying).....	3.50	0.001	3.501
11—Tunneling, including all work to completion.....	10.00	0.001	10.001	51—Iron work, erecting balconies, fire escapes, railways, staircases, coal chutes, iron shutters (outside of building).....	3.50	0.001	3.501
12—Bridge building (metal).....	9.00	0.001	9.001	52—Concrete bridge work, building, piers, abutments and foundations (no caisson work).....	3.50	0.001	3.501
13—Pile drivers.....	9.00	0.001	9.001	53—Concrete work—Buildings, including foundation—Reinforced or concrete construction with self-bearing floors or other horizontal floors or surfaces or parts constructed by means of reinforced concrete. Payroll to include those engaged in making, setting up and taking down frames, scaffolds and falsework.....	3.50	0.001	3.501
14—Bridge building (not otherwise classified).....	8.00	0.001	8.001	54—Stone crushers.....	3.50	0.001	3.501
15—Scrap-iron and junk dealers, away from shop.....	8.00	0.001	8.001	55—Roofers (not otherwise classified).....	3.50	0.001	3.501
16—Building movers (wooden).....	7.50	0.001	7.501	56—Shaft sinking (must include all wages expended in the sinking of shafts and installation of lining, footways, machinery or hoist equipment therein).....	3.50	0.001	3.501
17—Torpedo manufacturers.....	7.00	0.002	7.002	57—Railroad hazard (operating contractor's risk).....	3.50	0.001	3.501
18—Riggers (not ship or boat).....	6.50	0.001	6.501	58—Railroad operating, freight only.....	3.50	0.001	3.501
19—Subway construction.....	6.50	0.001	6.501	59—Sign painting or lettering (over 20 ft. from ground).....	3.50	0.001	3.501
20—Trees, pruning, spraying, repairing, trimming and fumigating.....	6.30	0.001	6.301	60—Badge (metal) manufacturers.....	3.30	0.020	3.320
21—Conveyors and hoisting apparatus (coal and ore, installation of, in connection with docks).....	6.00	0.001	6.001	61—Telegraph and telephone lines (construction only).....	3.30	0.001	3.301
22—Iron work (structural-erecting—building construction).....	6.00	0.001	6.001	62—Quarries (not lime or cement) with or without blasting (not otherwise classified).....	3.25	0.001	3.251
23—Building movers, other than wooden (including shoring of buildings).....	6.00	0.001	6.001	63—Lime quarries, with or without blasting, including stone crushing.....	3.25	0.001	3.251
24—Sewer building (depending on depth, highest rate).....	6.00	0.001	6.001	64—Quarries, with or without blasting, bluestone, graphite or marble for monument or building purposes (no quarrying for dam or bridge work).....	3.25	0.001	3.251
25—Metal-stamping works.....	5.50	0.02	5.520	65—Sand and gravel diggers including washing and screening operations (no stone crushing or canal, sewer or cellar excavation or grading).....	3.25	0.001	3.251
26—Saw mills including all employees whose duties require their presence in or about the mill and the hauling of cut lumber.....	5.50	0.02	5.520	66—Tank or gasholder erection (metal).....	3.25	0.001	3.251
27—Sandstone quarries (for building, sawed or grinders).....	5.50	0.001	5.501	67—Electric light and power companies (operation, maintenance, extension of lines and making service connections).....	3.25	0.001	3.251
28—Tuck pointers (cleaning exterior of buildings).....	5.50	0.001	5.501	68—Telegraph and telephone companies (operation, maintenance, extension of lines and making service connections).....	3.25	0.001	3.251
29—Threshing machines, shellers and haybalers, operation of.....	5.40	0.001	5.401	69—Refrigerator cars (refrigeration and caring for freight in cars during transit, including loading and unloading).....	3.20	0.001	3.201
30—Cornices and sky lights (repairing and erecting).....	5.25	0.001	5.251	70—Coal mining.....	3.10	0.001	3.101
31—Logging and lumbering operations with transportation of logs to mill.....	5.00	0.20	5.020	Culm, slack or coal-refuse washing.....	2.50	0.001	2.501
32—Scrap-iron dealers.....	5.00	0.002	5.002	Care of idle mine.....	1.25	0.001	1.251
33—Lime quarries with or without blasting (no crusher).....	5.00	0.001	5.001	Coal mining (surface).....	1.00	0.001	1.001
34—Smokestack and chimney erecting (metal).....	5.00	0.001	5.001	Coal-mine committeemen.....	0.60	0.002	0.602
35—Vaults, fire and burglar proof (construction and installation).....	4.50	0.001	4.501				
36—Autogenous welding, oxyacetylene.....	4.50	0.001	4.501				
37—Railroad construction (grade crossing work) involving all work incidental thereto (excluding iron and steel erection or the laying of new sewers).....	4.50	0.001	4.501				
38—Electric light and power companies, construction of transmission lines not intended for local distribution.....	4.50	0.001	4.501				
39—Oxygen and hydrogen mfrs. (electrolytic processes).....	4.25	0.03	4.280				
40—Bridge works.....	4.00	0.02	4.020				



### "Thar's Coal in Them Air Hills"

Two of the Blue Diamond Coal Co. operations at Blue Diamond, Ky., viewed from under the cables of an aerial tramway which conveys the picking-table refuse to a dump on the other side of the mountain. At the left is the new side of the Blue Diamond mine. The scraper-type retarding conveyor from this mine together with that from the old mine discharge into a common tippie. At the right of the picture is the Sapphire mine, of the Blue Diamond company. This formerly was a Jewett, Bigelow & Brooks mine and was bought from the receivers last winter.



## Coal May Capture Alcohol Market from Wood

German Water-Gas Process Produces Methanol With Such Success That This Wood Alcohol Substitute Interests U. S.

COAL MAY some day win the alcohol market now held by wood. Methanol, a product distinctly competitive to wood alcohol, is now being made from coal by the water-gas method with such success by the Germans that there is some perturbation felt among wood distillers of this country. By the German process, methanol or methyl alcohol ( $\text{CH}_3\text{OH}$ ) is produced and sold to meet the demands of industry now filled by wood alcohol, which is methyl alcohol with certain impurities. The importation of this coal synthetic methanol by the United States increased from 40 gal., or almost nothing, in January of this year, to 70,000 gal. in March.

Before the war Germany purchased about two-thirds of the total exports of wood alcohol from the United States. Today we are rapidly losing our foreign and even our domestic market. As it is difficult to ascertain the German costs of production and even to determine the American costs, because the distillation of wood also produces calcium acetate, tar and charcoal, it will be no easy matter for the Tariff Commission acting with the President to adjust the tariff on wood alcohol above the present rate which is 12c. per gallon.

American distillers of wood alcohol are going into battle with the German producers of this synthetic methanol. Dr. Charles H. Herty, president of the Synthetic Organic Chemical Manufacturers' Association, said June 18 at the semi-annual meeting of the association at Bellport, Long Island. He said:

"We seem to have recovered somewhat from the first demoralizing shock of imports of large quantities of synthetic methanol. The American industry is now stripping itself for the fight. It is good to know that Government agencies which may be able to aid in the protection of the wood alcohol industry are investigating the whole situation carefully, and we may confidently hope that all possible aid will be given.

"The Synthetic Organic Chemical Manufacturers' Association has a very direct interest in this situation. Methyl alcohol is used in large quantities by our industry, and whatever may be the outcome of a future contest between domestic manufacturers of methyl alcohol by either destructive distillation or synthetic processes, nevertheless the synthetic process has not yet begun in this country and we must use our efforts to see that we are not dependent upon a foreign source of supply for this important material.

"So far as I can see, the very serious danger which at one time threatened our industry from loans made by bankers here to the German chemical industry has passed. The present financial shake-up in Germany, due to the troubles of the Stinnes and possibly other groups is making our bankers wary of further industrial loans to Germany."

Two German chemists, Alwin Mittasch and Christian Schneider, residing at Ludwigshafen-on-the Rhine, Germany, on Oct. 17, 1916, patented a method of treatment of carbon monoxide and hydrogen—which gases, by the way, are the main constituents of water gas. The two gases either alone or in admixture with other gases

are passed over a heated catalytic agent under a pressure exceeding that of five atmospheres.

According to the nature of the catalytic agent employed and the conditions of working, different compounds or mixtures are obtained, for instance, liquid hydrocarbons, either saturated or unsaturated, and alcohols, aldehydes, ketones and acids. In order to obtain larger quantities of liquid compounds, it is often advantageous to employ gas mixtures in which the percentage of hydrogen contained is comparatively small. As instances of catalytic agents which can be employed may be mentioned cerium, chromium, cobalt, manganese, molybdenum, osmium, palladium, titanium, zinc, and also oxides or other compounds of these metals, and, if desired, mixtures of two or more of these catalytic agents can be employed. It is often advantageous to add a basic compound.

In one test pure asbestos was impregnated with pure cobalt oxide or osmium oxide and placed with a little caustic soda in a coppered iron vessel with steel jacket. A mixture containing one part of pure hydrogen and two or more parts of carbon monoxide were passed over the catalyst under a pressure of 100 atmospheres and temperatures from 300 to 400 deg. C. During the reaction some carbon was deposited, and some water and carbon dioxide produced, but methane and higher hydrocarbons as well as oxygen derivatives of the hydrocarbons were formed. These could be at once condensed or absorbed in a cold receiver. Generally an aqueous solution of aldehydes ( $\text{C}_n\text{H}_{n+1}\text{COH}$ ) and the like was obtained in addition to a light, oily liquid consisting chiefly of saturated and unsaturated hydrocarbons, which boil up to 250 deg. C. or even higher.

It is preferable practice to maintain the receiver under the same pressure as the reaction space and effect the condensation by cooling. If desired, a fractionated cooling can be effected either with or without releasing the pressure. In a similar way carbon dioxide can be used instead of, or in addition to, carbon monoxide, more oxygen-containing compounds and less hydrocarbons being then obtained.

### RESULTS OF OTHER TESTS

In other tests a suitable carrier, such as calcined magnesia, pumice or diatomite, was impregnated with potassium-carbonate solution. The mass was then dried and introduced into a concentrated solution of zinc nitrate, the liquid was poured off and the contact mass was then dried and heated in a suitable apparatus and placed in a vessel through which was passed a gas mixture at a pressure of 120 atmospheres and a temperature of from 360 to 420 deg. C. This gas mixture contained 62 per cent of carbon monoxide, 28 per cent of hydrogen, 4 per cent of carbon dioxide, 2 per cent of methane and 4 per cent of nitrogen. The products consisted chiefly of higher hydrocarbons and derivatives therefrom.

In this case carbon was not deposited, or, at the most, only to a slight extent. The greater part of the products capable of liquefaction or absorption could be separated at ordinary temperatures. The remaining gas generally contained olefines, such as ethylene and propylene and, further, paraffins such as methane and ethane. Analysis of the products obtained showed that the oily layer consisted chiefly of hydrocarbons of boiling points from 20 deg. to well above 200 deg. C. For instance, about two-thirds are saturated and the rest olefinic, but this proportion may vary considerably.



## News Of the Industry



### Lewis Spurns Olive Branch Offered By Anthracite Operators; No Move Yet Either by Washington or Harrisburg

No relief for the anthracite impasse was in sight early this week. Samuel D. Warriner, chairman of the Anthracite Operators' Conference, last week sent a conciliatory letter to President Lewis of the miners suggesting a resumption of the negotiations broken off so abruptly by the miners at Atlantic City, Aug. 4, but on Aug. 9 Mr. Lewis made a reply characteristically positive, characteristically ironic and one that seemed to bear out the impression that the miners are determined there shall be a strike Sept. 1.

The miners' position is that the operators will not grant either an increase in wages or the check-off and therefore further negotiations of any sort are useless. They are proceeding with their plans for a suspension. No move has yet been made either by Washington or Harrisburg to indicate that the federal government or Governor Pinchot of Pennsylvania will try to take a hand. President Coolidge is reported to be disappointed at the failure of the two scale committees to resume negotiations and he may cut short his vacation because of it.

In the operators' effort to heal up the break at Atlantic City Mr. Warriner's letter to Mr. Lewis said:

"It is, of course, untrue that the operators' negotiating committee is under instructions to continue to refuse any concessions regardless of the logic or merit of any of the mine workers' wage demands. The operators' committee is no more bound by instructions than your committee is bound by the demands adopted by the Scranton convention.

"You have now taken the grave responsibility of abruptly terminating the negotiations because of our opposition to your demands as adopted by the Scranton convention. In short, you take the position that 'negotiation' means instant agreement with your demands.

"There is only one really important matter to which I must refer, and that is your statement that you possess knowledge of the anthracite operators' well known policy of keeping close to an arbitrator. I cannot believe you seriously make such an accusation. It condemns itself.

"On this false premise you attack not merely a suggestion applying to this case. You attack a principle that is

universally approved by right-thinking men as the best means yet devised to arrive at justice between contending parties. The only alternative is industrial strife with its attendant waste and loss to the industry.

"In spite of the terms of your letter and the breaking off of negotiations, I am hopeful that means will be found to compose the differences between us and avoid a suspension of production. Every consideration demands that this be done."

Mr. Lewis' reply contained these phrases:

"I do not desire to quibble over the fine shades of meaning affecting words and involved phrases. It remains that your Atlantic City conferees informed the mine workers' representatives, including myself, that they would reject any demand that would disturb the factor of mine costs. In addition, they rejected the request for full recognition of the union for some other mysterious reason. Your letter confirms the position of your committee. Be it so. We do not have any inclination to further argue when judgment has been given. I will be glad to hear from you when you abandon this position.

"I note your reference to my previous comments upon arbitration. I can well understand your natural irritation in the premises. I referred, of course, to the arbitration proceedings of some years ago when the final decision of the arbitrator was changed between twilight and dawn.

"We really do not care to arbitrate. Thanks for the offer."

### Another Big Merger Of Non-Union Mines Is Under Discussion

John Laing, president of the Kanawha Coal Operators Association, stated last week that there is on foot another of the many coal mine merger plans that have been discussed in southern West Virginia. He said there had been a meeting in New York July 30 at which was presented the possibility of consolidating a majority of the producers in the Kanawha, Williamson, Tug River, New River, Winding Gulf and Pocahontas fields of West Virginia and in the Big Sandy field of Kentucky and Tennessee. An attorney in New



**John Laing**

President of the Kanawha Coal Operators' Association

York, whose name was linked with the proposal, said the suggestion was still merely a suggestion and that a great many bridges still remained to be crossed.

The tentative plans, as outlined by Mr. Laing, are to raise a fund of \$250,000,000 with the aid of strong New York and Philadelphia banking houses in order to pay the owners of the properties 25 per cent of the determined value. An additional \$100,000,000 would be desired for working capital. Bonds to cover the remainder of the property value would be distributed among the present owners of the mines. A huge corporation would operate the merged mines, with a board of ten men three of whom would be bankers and seven coal men. It was currently reported among coal men interested that the bankers who have discussed the merger will agree to finance it only if a controlling tonnage in each field is brought in. A questionnaire is now circulating among mine owners to determine what definite interest there is in the proposal.

At a special meeting of the stockholders of the Glen Alden Coal Co. held in Scranton, Pa., Aug. 10 it was voted to cancel the company's sales contract with the Delaware, Lackawanna & Western Coal Sales Co., and to effect a stock transfer plan, whereby holders of the sales company securities will receive share for share in Glen Alden securities.



## Government Subsidy Defers Crisis Confronting British Coal Industry Is Belief of Washington Observers

By Paul Wooton

Washington Correspondent of *Coal Age*

Granting of a government subsidy to the business on which the entire British industrial structure rests is regarded in Washington as a makeshift intended only to postpone a general strike until the country is in a better position to withstand such a shock. If the coal industry in Great Britain cannot stand alone what must be the state of many other activities in that country, it is asked.

It is generally recognized in this country that the mine workers in the United Kingdom are not receiving enough pay even when judged by European standards of living, but it is hard to understand how any part of a private concern's payroll can be saddled on the taxpayer without precipitating a political crisis. It is certain that were any additional funds raised here for such a purpose they would have to come out of the industry if forthcoming at all.

The British coal industry is in a position where it cannot pay profits to owners and wages at the present rate to the men. Some one has to get along with less. The government has not been strong enough to require either the miners or the operators to get along with less. It also has been unable to influence the low-cost producers to agree to contribute their surplus profits to a wage pool.

It is recognized that the conservative leaders in Great Britain know just how unsound is the settlement which they have effected. That they were forced to such an expedient to postpone the crisis is taken as evidence that British business is in worse straits than had been realized here. In this we have much concern. Our own prosperity is dependent to an extent on the prosperity of our best customer. There are in addition reasons of state and of sentiment why the people of this country want to see the British overcome their difficulties promptly.

### Inopportune Time for Showdown

Those who follow British affairs closely point out that nearly any time other than the present would be better for the inevitable showdown which must come in Great Britain. The policy of the party in power has been to concentrate on efforts to stimulate trade rather than to consume all its energies in pursuing such a will o' the wisp as German indemnities. Their efforts, along with the bettering of world trade, have brought about an improvement in the British situation. The subsidy evidently was granted in the hope that the improvement would continue with sufficient rapidity to make the task easier some months hence.

Profits at British coal mines are peculiarly dependent on volume of output. The kingdom is more dependent on foreign trade than any other country. Most of its industries must be

operated near capacity before satisfactory earnings are possible. If the buying power of the tropics, of Germany and of Russia should increase in marked fashion there would be a chance for some settlement of the coal controversy.

The chances, however, seem to be very much against a sufficient recovery of business to pull Great Britain out of its depression. The more general prediction is that there must be a general readjustment of British trade with much less reliance placed on coal. This change, however, must be spread over a long period. It involves the mechanization of the mines and the development of a superpower system. Most important of all is the working out of some plan that will induce the mine worker to do his best.

### Reduced Wages Inevitable

The British coal industry is in no position now to await gradual improvement. Something has to be done promptly to reduce costs. Since labor represents three-fourths of all costs, a reduced wage offers the more immediate way of meeting the situation. The expectation here is that it will have to be resorted to sooner or later. This doubtless will mean a general strike and a finish fight with organized labor. British labor in all lines has adopted a policy of discouraging productivity on the part of the individual worker. Nothing less than the weakening of the unions can supplant this policy with one which encourages maximum individual productivity, many think.

Under the readjustment which is expected Great Britain will withdraw to a certain extent from the world coal trade and try to use larger quantities at home. No country, it is declared, has a better opportunity to utilize superpower to advantage. Plenty of condensing water is available for power plants in the coal fields. Electric power could be made available throughout the country at a cost which would give British manufacturers some advantage. Then by specializing in the manufacture of products which require large amounts of power and by concentrating in addition on the production of goods of high quality, British industry could be put on a basis which would employ the nation's resources, manpower and brains to greater advantage than at present. One effect on this country probably would be the export of more coal.

While this readjustment is being brought about it is believed that the British will be able to get along fairly well on the business that they will be able to do with the slowly recuperating world and their income from foreign investments. This later source of income is considerable.

## Bell Lost \$10,932,000 In Five Years

John A. Bell, one of the largest coal operators in western Pennsylvania, whose affairs have been public concern for months through the failure of three banks with which he was connected, went into voluntary bankruptcy Aug. 7 in Pittsburgh, listing his assets at \$1,628,535.73 and liabilities of \$8,669,097.81.

The day before the bankruptcy petition was filed a committee of three, known as the John A. Bell Creditors' Committee, which had been working for months to conserve the assets of the coal man, filed a preliminary report on its work, showing that Bell had lost through various operations, nearly all coal, a total of \$10,932,000 in five years. Included in these losses were \$6,500,000, or his entire investment, in the Carnegie Coal Co.; \$389,000 in the Tasa Coal Co.; \$300,000 in the Harmon Creek Coal Co. and \$297,000 in the Salkeld Coal Co. A total of \$400,000 was lost in minor corporations, including other coal companies.

The bankruptcy petition was filed hurriedly, to forestall an involuntary petition by creditors.

Bell, who was almost as well known as a banker, declared in his petition that his occupation was a coal operator. He cited that between 1915 and 1925 he contracted debts representing both cash borrowed and property purchased by him personally totaling \$4,797,331, of which \$1,277,323 is secured and \$3,520,007 is unsecured.

All his assets, including obligations due him, personal property, his home—everything except \$175 in clothing—have been turned over to his creditors.

## Winifrede Coal Co. Closes Cincinnati Office

A landmark of the Cincinnati coal trade passed July 30 when the Winifrede Coal Co., of which Frank B. Stewart is president, closed the office that has been maintained in the First National Bank Building and shipped all books of record to the mine office at Winifrede, W. Va. The company owns 15,000 acres of land in West Virginia, including five mines at Winifrede, about fifteen miles from Charleston, and one mine at Belmont, Ohio. These mines are capable of producing 600,000 tons of coal annually. Two years ago the company bought a \$100,000 washer for the mines. It also owns a short railroad which carried the coal from the mines to the Kanawha River.

It has been months since a ton of coal has been mined at the big mine at Belmont, and since the first of the year the five mines at Winifrede have worked only in fits and starts.

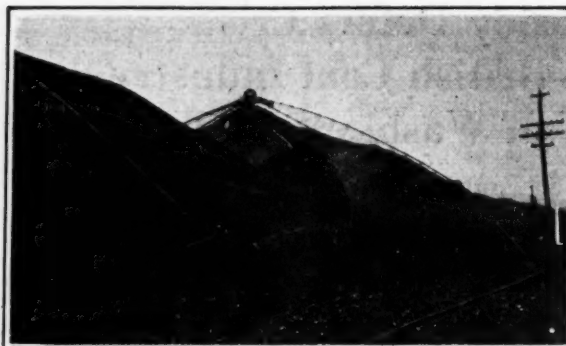
The Pittsburgh Coal Co. has placed a contract for the construction of a new tippie at Montour Mine No. 9, near McDonald, Pa., which was destroyed recently by lightning. The loss was estimated at that time at \$100,000. The contract has been given to a Bethlehem concern. There will be no hurry in its construction, as the mine is idle.

### Mine Accidents in June Caused 145 Deaths

Accidents at coal mines in the United States in June, 1925, resulted in 145 deaths among the employees, according to information received from state mine inspectors by the U. S. Bureau of Mines. The fatality rate, based on the month's production of 44,971,000 tons of coal, was 3.22 per million tons, as compared with 4.15 in the preceding month and 4.16 in June, 1924. Seventeen of the 145 fatalities were due to a mine explosion at Sturgis, Ky., on June 8. In June last year 14 lives were lost in an explosion at Wilkes-Barre, Pa.

Reports covering bituminous mines throughout the country showed 95 fatal accidents in June. As the output of bituminous coal in June was 37,167,000 tons, the fatality rate was 2.56 per million tons. The rate for June a year ago was 3.44 while the average rate for June over a 10-year period, 1915-1924, was 3.58, thus indicating a marked improvement in June of the present year. The reports for anthracite mines in Pennsylvania showed 50 fatalities in June, which, based on a production of 7,804,000 tons, represents a per-million-ton fatality rate of 6.41 as compared with 7.14 for June last year and 7.23 for the month of June during the ten years 1915-1924.

Accident records covering the first half of 1925 show a loss of 1,089 lives in the coal-mining industry, which is 239 less than during the first six months of 1924. The fatality rate for



#### Stored Anthracite

Here are a few tons of anthracite stove and nut stored near the mines by one of the large producers which will help keep the home fires burning this winter. This yard is about an eighth of a mile long and holds more coal now than perhaps ever before. No doubt the reason for this is the possibility of a strike in the anthracite region.

January-June, 1925, based on an output of 279,949,000 tons, was 3.89 per million tons, as compared with 4.73 for the corresponding period last year. The six-month rate for bituminous mines alone was 3.45 in 1925 and 4.56 in 1924, while for anthracite mines alone it was 6.19 as compared with 5.60. Production records show an output of 234,886,000 tons of bituminous coal and 45,063,000 tons of anthracite during the first half of the present year.

An examination of the causes of the 1,089 deaths in the coal industry in the first half of 1925 and a comparison thereof with the accident record for the corresponding period last year shows a reduction of nearly 50 per cent in the per-million-ton fatality rate from explosions of gas or coal dust and a small reduction in the death rate from falls of roof and coal. The rate for accidents due to haulage, explosives and electricity increased slightly. The com-

parative rates for the main causes of accidents were:

	Jan.-June 1924	Jan.-June 1925
All causes	4.736	3.889
Falls of roof and coal	1.858	1.711
Haulage	.601	.647
Gas or dust explosions	1.541	.797
Explosives	.153	.179
Electricity	.117	.121

John G. Callahan, a former member of the Morrow-Callahan Coal Co., has been selected to succeed Louis Stone as general sales manager of the Southern Coal & Coke Co., which operates seventeen mines in southeastern Kentucky and with sales offices in Cincinnati. Mr. Stone plans to return to the Wallins Creek Coal Co., in which he still retains a heavy interest. Mr. Callahan was traffic manager of the National Coal Association when J. D. A. Morrow held the secretaryship of that organization. For the past couple of years he has been connected with a trade directory published in Pittsburgh.

### Coal-Mine Fatalities During June, 1925, by Causes and States

(Compiled by Bureau of Mines and Published by Coal Age)

State	Underground										Shaft				Surface						Total by States					
	Falls of roof (coal, rock, etc.).	Falls of face or pillar coal.	Mine cars and locomotives.	Explosions of gas or coal dust.	Explosives.	Suffocation from mine gases.	Electricity.	Animals.	Mining machines.	Mine fires (burned, suffocated, etc.).	Other causes.	Total.	Falling down shafts or slopes.	Objects falling down shafts or slopes.	Cage, skip or bucket.	Other causes.	Total.	Mine cars and mine locomotives.	Electricity.	Machinery.	Boiler explosions or bursting steam pipes.	Railway cars and locomotives.	Other causes.	Total.	1925	1924
Alabama.....	2		2									4													4	5
Alaska.....																									0	1
Arkansas.....																									0	3
Colorado.....	2		1	3							1	7													7	7
Illinois.....	2						2					4													4	3
Indiana.....	1											1													1	6
Iowa.....	2											2													2	2
Kansas.....																									0	1
Kentucky.....	4		3	17								24													24	8
Maryland.....																									0	1
Michigan.....																									0	0
Missouri.....			1									1													1	0
Montana.....		1										1													2	0
New Mexico.....			1									1				1	1								2	2
North Dakota.....																									0	0
Ohio.....	2		1									3													3	2
Oklahoma.....																									0	0
Pennsylvania (bituminous).....	3		4		1							8										1	1		9	21
South Dakota.....																									0	0
Tennessee.....	2											2													2	0
Texas.....																									0	0
Utah.....		1										1													2	0
Virginia.....	3		1									4											1	1	2	1
Washington.....	1																								1	3
West Virginia.....	12	2	4				2				1	21	1				1	1					2	3	25	38
Wyoming.....	2		1									3													3	5
Total (bituminous).....	38	4	19	20	1		4				2	88	1			1	2	1				1	3	5	95	108
Pennsylvania (anthracite).....	15	2	10	6	6						2	41	1				2	2					4	8	50	55
Total, June, 1925.....	53	6	29	26	7		4				4	129	2			1	3	2	2	3		1	13		145	
Total, June, 1924.....	79	11	24	20	8	2	7			2	4	157	2				2	2	1			1	4			163



## Probe of Contract-Breaking Bruited as Sabotage Again Breaks Out Openly In Upper West Virginia Strike Zone

Government investigation of the West Virginia coal fields looms up again, observers predicting that when the U. S. Senate meets again certain representatives of that body will be prevailed upon to probe the charges of alleged contract-breaking. This time it will involve the northern West Virginia fields, if it comes at all, because some of the largest companies are alleged to have resorted to breach of faith in the Fairmont field.

It is generally known that Senator M. M. Neely, who hails from the heart of the Fairmont region, probably will take no part in the proceeding, as he has assumed a neutral position in the struggle and has avoided connection with either side, but labor is banking on him.

With the return of Van A. Bittner, chief international representative of the United Mine Workers, early last week the miners have taken on a new lease of life. Energetic picketing was resumed at the Monongah opening of the New England Mine, the big Federal Mine No. 1 of the New England Fuel & Transportation Co., in Grant Town, which was the storm center in months gone by, as well as at Parker Run mine of the Fairmont & Cleveland Coal Co., the Morgan Mine of the Virginia & Pittsburgh Coal Co., Jamison No. 9, the Rachel Mine of the Bertha-Consumers Co., at Downs, and others.

Announcement was made Aug. 6, that the United Mine Workers had called off the strike at the Graselli Chemical Co. mine at Zeizing near Clarksburg and that the union men were back at work.

Commenting on the hands-off policy of the government, Bittner said in part: "The position of President Coolidge and other high government officials apparently is to allow the coal miners and operators to settle the problems of the industry. They have taken the position that the strike is the only weapon of defense left for the miners to prevent abrogation of present wage agreements by the coal operators, and the position of the United Mine Workers is that if the strike is the only weapon of defense left to enforce existing wage agreements, then they will use it most effectively by calling out every union and non-union coal miner in the United States in both anthracite and bituminous coal fields. And unless something suddenly happens to alter conditions and compel coal operators to comply with their wages agreements, the American people can expect this program to be made effective."

Sabotage has broken out openly in the region. Charles Brown and Albert Gibson, employed at mine No. 2 (Two-lick) of the Fairmont Big Vein Coal Co., were arrested last week, charged with causing \$3,000 damage at the plant. Daniel Howard, president of the company, alleges that the men threw bolts in the machinery for the purpose of putting the mechanism out of com-

mission. It was necessary to close the plant for twenty-four hours, but the mine was again working in mid-week and according to Mr. Howard ("Uncle Dan"), all of the loss was covered by insurance.

Coal operators declare that they are getting all of the tonnage that they desire. This is true especially at non-union and company contract plan operations. The Consolidation Coal Co. probably is getting one-third of its capacity, but this seems to be about all the coal that is needed for immediate shipments.

John L. Lewis, international president of the United Mine Workers, is being prevailed upon to address a large union miners' mass meeting in Fairmont on Labor Day. Mr. Lewis, it is reported, has expressed his willingness to address the gathering if he is able to leave the pressure of business incident to a general strike, which is expected to envelope him at that time.

### Leaders Discuss Conditions

Van A. Bittner, John L. Lewis, international president of the union miners, and John H. Jones, of Pittsburgh, president of the Bertha-Consumers Co., held a conference at the Ambassador Hotel in Atlantic City Aug. 7 to discuss conditions at Rachel Mine of the company at Downs, near Fairmont. The miners alleged the company has abrogated its contract and evicted miners and expected to evict more. The miners have threatened to strike the Jones plants in the Pittsburgh and Ohio districts unless the Rachel plant operates union.

In the first two days of last week the non-union mines produced 2,848 cars of coal. The output on Aug. 3 was 1,472 cars, which was within striking distance of the daily peak attained July 28, when 1,524 cars were loaded. Union mines in two days loaded 472 cars of coal. The union production Aug. 4, 237 cars—was the largest reached since the strike began April 1.

Mine No. 1 of the Cleveland & Morgantown Coal Co., located in Scott's Run, resumed operation on a union basis last week. Officials of the United Mine Workers asserted last week that they had organized a number of non-union miners at the Parker Run Mine of the Fairmont & Cleveland Coal Co., at Fairmont.

Everything is quiet in the Panhandle section of northern West Virginia, there having been no recent developments.

The Davis Coal & Coke Co., operating in West Virginia, Maryland and Pennsylvania, has been following a progressive safety program for the past eight years which has resulted in a steady decrease in accidents. At present every employee holds a Bureau of Mines first-aid certificate. It is the only company boasting of such a record in Maryland and Pennsylvania and is one of three in West Virginia.

### When a Feller Needs One

The most difficult problem of administration which T. T. Read, Chief of the Division of Safety of the U. S. Bureau of Mines, has to face concerns colored cooks on the ten mine-rescue cars. "The difficulty," says Mr. Read, "is to provide a source of amusement for the cook while he is alone on the car, which is a large part of every day. We have only two cooks who appear to be satisfied, one who has grown fat in the service and the other who has subscribed to a correspondence course in voice culture."

### Seek Peace Between Races in Southern Coal Fields

The program of the Commission on Inter-Racial Co-operation has been introduced into the coal fields of southwest Virginia, field secretaries of the commission addressing hundreds of colored miners in public meetings and holding conferences with white leaders of the communities. Dr. C. B. Bowyer, surgeon for the Stonega Coal & Coke Co., Stonega, Va., is a member of the district committee. Dr. J. P. McConnell, East Radford, Va. is district chairman.

The aim of the commission, which is made up of representative white and colored leaders of the South, is to help to a better understanding and to a truer and wider conception of one of the most important factors in industrial relations today—a program whereby the two races can live side by side in peace without doing violence to customs and traditions.

The full program includes health, housing, sanitation, education, crime prevention, justice in the courts, economic improvement and the promotion of good will between the races. The work is non-political and non-sectarian.

James D. Burton, of Oakdale, Tenn., is traveling secretary for the commission in southwest Virginia, Tennessee and Alabama.

### Prizes for Coal-Saving Ideas

The Pennsylvania R.R. is seeking to obtain widespread expression from firemen, enginemen, hostlers, coal chute operators and other employees immediately concerned, of new ideas and helpful suggestions on the problem of saving coal. Prizes of \$50, \$25 and \$10 in the Eastern, Central and Western regions for the best three original articles written by firemen and enginemen on the general subject of saving coal are offered. Locomotives on the Pennsylvania consumed approximately 15,000,000 tons of coal in 1924. The railroads of the country in 1923 bought 159,918,000 tons of coal at a cost of \$537,202,000. The cost of coal represents 31 per cent of the total purchases by railroads, and 10 per cent of the total cost of transportation, being the largest item of expense, next to labor, that a railroad is called upon to meet.

### Persuasion by Prayer Now Enjoined

Two miners were arrested at Henryetta, Okla., Aug. 8 charged with disturbing the peace. Their arrest followed an order by Sheriff John Russell forbidding "further outdoor prayer meetings," and other gatherings in the mining fields. "Prayer meetings" have been a recent feature of a strike which started last spring when a number of operators attempted to reduce wages to the 1917 scale.

Miners and their wives have gathered daily at the mine gates and as workers departed have prayed for their safety and invoked divine help in persuading them to abandon their labors. Hymns have been sung.

In a conference with Governor M. E. Trapp, Okmulgee County authorities declared that the working miners found it unpleasant to have the men they have dispossessed praying daily for their physical safety. They said that the meetings carry a veiled threat against the peace of the mining field and for that reason have been barred.

Sixty-two National Guardsmen and Okmulgee County deputy sheriffs were on duty in the Henryetta mining district Aug. 8 and operations continued quietly. A habeas corpus hearing on that day for the two miners charged with disturbing the peace was continued until Monday.

### Judge Gray Dies

George Gray, once a leader in the U. S. Senate, an ex-Judge of the Circuit Court of Appeals and the last survivor of the commission which negotiated the Treaty of Paris in 1898, died at his home in Wilmington, Del., Aug. 7. He was 85 years old and had been ill since last December.

Besides his many other activities, Judge Gray had been a member of the Permanent Tribunal of International Arbitration at The Hague. He came into prominence as an international figure in 1898 when President McKinley appointed him one of the commissioners to Paris to negotiate the treaty of peace with Spain upon the conclusion of the Spanish-American War.

In the anthracite strike of 1902, when both sides seemed hopelessly deadlocked after five months of controversy, the operators called upon President Roosevelt to name a commission to arbitrate. He designated Judge Gray, chairman; Brig.-Gen. John M. Wilson, Bishop Spalding of Illinois, Edward W. Parker, Thomas H. Watkins, Edgar E. Clark and Carroll D. Wright. The commission's efforts at conciliation were successful; both sides made concessions and the miners went back to work. Three years later Judge Gray as arbitrator brought peace to Alabama coal fields after months of strife.

### Hoover Committee Studies Organization and Policy Of U. S. Bureau of Mines

Initial sessions of Secretary Hoover's advisory committee on the activities of the Commerce Department affecting the mining industry were devoted entirely to the presentation of organization questions raised by the transfer of the Bureau of Mines. The committee sat Aug. 6 and 7. Most of the time was devoted to hearing the views of the directors of the Bureau of Standards, of the Bureau of Mines and of their division chiefs. The Bureau of Foreign and Domestic Commerce submitted a written statement.

The committee acted formally in electing as its president J. V. W. Reynders, who is president of the American Institute of Mining and Metallurgical Engineers, and as its secretary C. P. White, chief of the Coal Division, Department of Commerce.

Secretary Hoover explained at the opening meeting that he is anxious to know what value the mining industry attaches to the work which the Bureau of Mines has done and what suggestions it has for the future conduct of the Bureau, now that it is associated more closely with the agencies in the Department of Commerce which have been serving the mining industry.

The committee learned that fundamental issues are involved. Apparently the form of organization of the Bureau of Mines will be analyzed and other forms of organization considered.

The committee will hold its next meeting in Salt Lake City in September, where contact will be established with numerous representatives of the industry. It is planned to discuss the matter with those actively engaged in mining enterprises.

L. S. Cates, president of the American Mining Congress, was unable to attend the meeting in Washington. He was represented, however, by James F. Callbreath, secretary of the Mining Congress. Philip Murray, of the United Mine Workers, also was prevented from coming and sent F. P. Hanaway, his assistant, to represent him. D. M. Folsom, the representative of the American Petroleum Institute, could not

### Nova Scotia Strike Ended; Men Return to Work

Coal miners of Nova Scotia employed by the British Empire Steel Corporation, who had been on strike for more than five months, agreed by a majority of 1,133 in a referendum Aug. 5 to return to work under the proposals of the Provincial Government. There were 6,693 votes polled, many of the miners not voting.

The terms of settlement were accepted on the next day by the British Empire Steel Corporation and the men were to return to work on Monday, Aug. 10, at most of the mines. Two of the collieries, however, are closed down indefinitely on account of flooding. Premier Rhodes of Nova Scotia announces that as speedily as possible the government will appoint a commission to make an exhaustive inquiry into the coal trade of the province.

Resumption of work is under an interim six months' contract pending a thorough investigation of the industry. Wages paid will be those of 1922, or a reduction of 6 to 8 per cent from the 1924 rates, and working conditions will be those of 1924. The government will rebate one-fifth of its coal royalties. The controversial check-off system of union dues being collected by the company will be submitted to a referendum held by the government.

attend, but the other members of the committee—Chairman Reynders, Secretary White, J. G. Bradley, of the National Coal Association, and H. Foster Bain, former director of the Bureau of Mines—were in attendance.

One of the important points which the committee will consider is the correlation of the work of the division of mineral technology and the division of mineral resources in the Bureau of Mines and the relation of that work to the Bureau of Foreign and Domestic Commerce.



Hoover and Advisory Committee Discuss Policy of Bureau of Mines

The advisory committee appointed by Secretary Hoover of the Department of Commerce to consider questions of policy and reorganization in connection with the transfer of the Bureau of Mines from the Department of the Interior to the Department of Commerce, held their first meeting Aug. 6. Left to right: C. P. White, chief of the Coal Division of the Bureau of Foreign and Domestic Commerce; J. V. W. Reynders, president American Institute of Mining and Metallurgical Engineers, New York; Chairman, Secretary of Commerce Herbert Hoover; J. G. Bradley, ex-president, National Coal Association, Dundon, W. Va.; J. F. Callbreath, secretary of the American Mining Congress, and H. Foster Bain, former director of the Bureau of Mines.



## Viewpoints of Our Readers

### Out West They Laugh (Yes They Do!)

I operate a small coal mine in the great West in competition with southern California fuel oil, so you might think that I never laugh; but anyway, every time I pick up a *Coal Age* and read about the operators in the effete East I get a good laugh. Every time a southern California real estate man's helper drives a fence post into a new subdivision of Los Angeles and something squirts up into his eye and he says: "This must be oil," and and it is oil and he sells stock to some retired coal magnate, we laugh some more. When a string of oil tankers comes through the mine yard, then we say that it must be hell to mine coal close to West Virginia with union labor.

But, like the operators close to West Virginia, we never kick. Sometimes when I read in *Coal Age* about some operator in the effete East who wants the other stiff to hold up prices, I get a big idea and decide to go down to Los Angeles and call a convention of real estate and oil men and ask them not to open up any more subdivisions and to hold the price of oil up so that we can sell coal at a profit.

The birds that work in this mine are funny. They have to have pancakes for breakfast every morning and sometimes ham and eggs, so I say to them: "You can't have enough pay to buy pancakes and ham and eggs unless you can go down in the mine and dig coal like a gopher digs dirt and throw it clear up on the tippie like oil out of a gusher, and it's got to be mostly big lumps at that."

Then they say: "We can't spout coal like a gusher does oil, so we better go to logging or building concrete highways," and I think that this is a good idea, especially the concrete highways, because the oil men in southern California are buying plenty of tax-exempt securities so that we can have lots of concrete highways, and they never have any money left over to lend to coal operators.

So we just sell coal to people who don't burn oil yet, and charge them a good price so that the guys can have their pancakes and sometimes ham and eggs and we can eat regular too. There aren't very many of us and

there may be less because oil is like a non-union operator, only worse. Whenever I see in *Coal Age* that some operator in the effete East has fixed it so that the operators in West Virginia will sell only pancake- and maybe ham-and-egg-coal I am going to write him and ask him to come out here because I want him to go down to California with me and talk to the oil operators. A WESTERNER.

Renton, Wash.

### Oil Burners Grieve in Silence

There must be many cases in which the purchasers of oil-burning equipment are discovering to their sorrow that they have been "stuck." Unfortunately, few ever hear about them because the unfortunate purchaser does not want his friends "to have the laugh on him."

A personal friend of mine told me his oil burner was working fine, but that it was more expensive to use oil than coal. This is what his next-door neighbor, also an intimate friend of us both, told me "on the side": It is impossible to tell how much oil is in the tank without measuring it with a stick, and the stick is almost worn out poking it down into that tank. When the last of the oil is pumped up into the secondary tank in the cellar it holds only a day's supply, and the oil man must get there immediately. Consequently, the first question he asks his wife at night is: "Has the oil man come today?" They have to be calling up once every ten days for oil. The truck delivers between 300 and 450 gal. at 10c. a gallon at a time, making his heating cost about \$125 a month, whereas, this householder used to burn no more than five tons of coal in that time. During the winter and heavy snows it was difficult to find the intake of the outside oil tank for it was continually getting frozen over. The man on the oil truck put the pipe hose into the mouth of an old drain in the backyard by mistake and delivered untold gallons into the sewer before he discovered his error.

If one would find out just how the plant of an oil burner is working, ask his neighbors. They will know, and they seem to enjoy the other

fellow's difficulties. It is only the fact that many oil users are afraid of getting the "big laugh," that prevents a lot of adverse information coming to our ears.

H. V. BLAUVELT,  
Vice-president.

Comfort Coal-Lumber Co.,  
Hackensack, N. J.

### "Candlepower" Is Passing

The advent of modern research and the results obtained have altered many of our old-time standards, and in the subject of lighting some of our everyday terms have proved to be illusory. The old conception of candlepower is being exploded, for we now have lamps the illumination of which bears no relation to their so-called candlepower.

I recently submitted to test various types of lamps from the old Davy to the modern electric cap lamp. The method of comparison was a new one, the experiments being conducted in an underground gallery, in roadways with both black and grey walls, representing the coal face and roadways respectively.

The suitability of the lamp was determined by the distance at which ordinary objects could be seen readily and picked up, also by the distance the lamps could be placed back from the black wall representing the coal face and still adequately illuminate certain operations, such as undercutting either by hand or machine. A further point considered was the area of wall illuminated by the hand lamp so as to determine how often the lamp must be moved to obtain adequate lighting.

This method of measuring illumination had the advantage of simplicity and, undoubtedly, would appeal more readily to the imagination of the ordinary mine worker than any elaborate photometric test.

During the discussion of the paper describing these tests,\* a well-known lamp maker and voluminous writer on the subject frankly gave as his opinion that "candlepower" as applied to safety-lamps was meaningless, but at the same time he made no suggestion of a term to take its place.

Dr. Llewellyn, a well-known authority on underground illumination, uses the foot-candle as a standard.

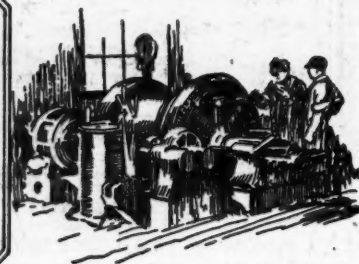
JAMES COOPER.

Heriot-Watt College,  
Edinburgh, Scotland.

\*Transactions, Institute of Mining Engineers, Vol. LXVIII, Part 2.



## Practical Pointers For Electrical And Mechanical Men



### Automatic Switch Thrower Aids Motors In Moving Trips to Tipple

The Gay Coal & Coke Co., near Logan, W. Va., alert to increase the efficiency and lessen the accident risk of every part of its operation, has installed an automatic switch thrower at the turnout to a by-pass track on the main outside tram road leading to the tippel. By means of the thrower the motormen are able to control the movements of their locomotives over, into or out of the switch, and in this respect the switch is made selective.

But it is in the changing of positions by the locomotives from the front to the rear end of a trip so as to simplify the movements in backing the cars to the tippel that this device serves its greatest usefulness in this installation. This shifting operation is performed by the motorman without any aid from the trip rider who thus avoids the danger of jumping from a moving locomotive—a customary practice where a hand-operated switch is employed.

In the accompanying illustration are seen the essential details of the switch thrower. These are designated as the "tripping device" and the "switch thrower." In addition, bolted to one side of each tram locomotive is a lever mechanism called the "traveler."

A locomotive moving on the right-hand or main track on its way to the tippel with a trip of coal cuts loose from the cars in the clear of the frog, and alone crosses over the frog and switch. In doing so the traveler on the locomotive is depressed by the motorman to pass through the guides and engage a finger-like lever on the switch thrower which opens the switch behind the locomotive.

The locomotive being in the clear of the switch which is now open reverses its direction, passing through the switch and onto the by-pass track. A short distance beyond the frog on the by-pass track is the tripping device which likewise is engaged by the

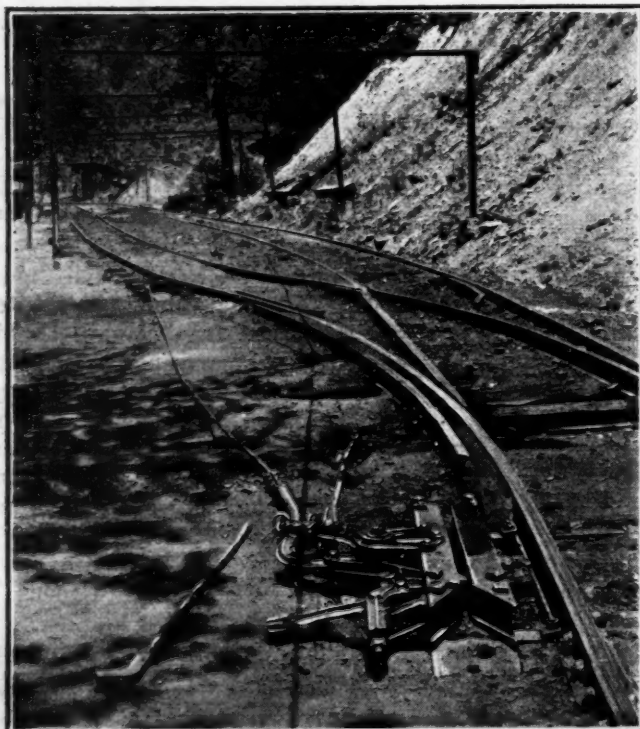
depressed traveler, closing the switch. The locomotive continues in motion, passes the standing trip on the main track, goes through a spring latch at the far end of the by-pass track and pulls up at the rear of the trip which it then backs to the tippel.

### Interlock Protects Mine Electrical Service

Constant co-operation between power and coal company men leads more and more to the use of devices that make continuity of service a reality today whereas a few years ago uninterrupted service was scarcely to be hoped for.

Annoying interruptions have been eliminated in some instances by the power company supplying service over two sets of lines, either of which may be used through double-throw switches. However, in such cases it is frequently necessary for the central station to request that the colliery workmen change over from "No. 1 line to No. 2 line" to permit change of insulators, repairs to switches, or other manipulation of line No. 1. Often this affects more than one colliery and involves not only the delay of tripping off all the load at the main oil switch, with consequent loss of tonnage, etc., but also necessitates phoning instructions to the more remote operations affected by the change. Sometimes, interruptions of as long as 20 min. are experienced before pumping and other operations can all be normally resumed.

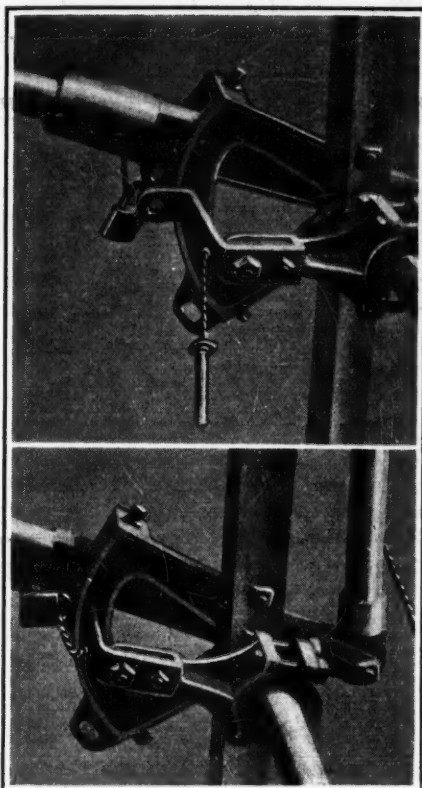
At one of our mines two sets of air-break switches were installed to replace two double-throw switches. An agreement was reached with the power company to parallel the two lines in the process of changing from one line to the other. There then remained only the difficulty of determining what to use for a satisfactory interlock to insure the opening of the first line after the second line had been placed in service. The interlock to be described was designed to meet the conditions imposed. It



#### Switch Needs No Hands

When a loaded trip comes up on the right-hand track, the locomotive cuts off and proceeds forward through the switch, lowering a "traveler" bar into the slot in the switch thrower (foreground). This throws the switch-point so the motor can back into the by-pass track. When the "traveler" engages the tripping device beside the rail in the middle background, the switch is closed. The motor then runs around the trip and pushes it to the tippel.





**Interlocking Device Prevents Use of Lines in Parallel**

The upper illustration shows the switch handle coming into position. The lower picture shows the switch in place and locked by means of a pin and padlock. The switch handles are arranged so that they cannot be locked unless one switch is open and the other closed.

was necessary that there be: (1) Insurance against accidental paralleling of the lines. (2) Simplicity of operation with rugged construction. (3) Positive interlocking that would make it impossible for an operator to walk away from the tower leaving both switches in.

To accomplish the desired results the two switches were mounted on top of a tower side by side. The operating rods were reversed so that when both operating handles were in the down position one switch would be open and one closed. The open switch could then be closed by pulling the handle into the up position. In this manner the lines were paralleled. Pulling the other switch handle up opened the first line. When both handles were up, as before, one switch was open and one closed. The switches lock in this position so that this last condition always exists when the switches are left in.

As the system works now, both handles can also be locked in the up position or in the down position. This is arranged as follows: A 1½-in. galvanized pipe is run across the tower, on the right-hand end of this pipe is riveted one handle so that

when it is moved the pipe turns. In effect, it is a long shaft operated by the handle and rotated in rough bearings. This handle then performs two functions, namely, operating its own switch and rotating the shaft. On the left-hand end of the pipe shaft the other operating handle pivots loosely, operating only its own switch. On the pipe shaft near this handle is clamped a short arm having a hole at the end of it.

When both handles are up, or both down, the hole in this short arm comes opposite the hole in the handle and the stationary hole in the quadrant in which the handle moves. A pin is provided to enter these three holes and a padlock hangs ready to snap through an opening in the end of the pin. The pin is attached to the short arm by a length of chain; the padlock is similarly chained to the operating handle. These chains are so short that it is impossible to use the pin and padlock unless the three holes are lined up either in the up position or in the down position; so one switch must be in, and one out before the final operation of locking the switches can be accomplished.

It is a simple matter, when lines are to be changed, to unlock the padlock, remove the pin, put in the switch that was open, thus paralleling the lines, and finally pull out the first switch in order to line up the three holes again to insert the pin and lock.

To further avoid confusion a large lettered sign concisely stating the whole procedure to be followed is hung on the structure facing the operator.

ELECTRICAL ENGINEER.

### Old Belt Pulley Now Serves as Hand Lawn Roller

Particularly during recent years, commendable pride has been exhibited in the appearance of mines and mining plants throughout the country. Lawns, flower beds and the like have taken the place of many an unsightly scrap heap. Lawns, however, cannot be properly cared for without suitable tools. The accompanying photograph shows a hand roller recently built in the shops of the Kingston Coal Co., Kingston, Pa., for use on company lawns.

This roller was once a large belt pulley driving a coal crusher. The openings in the end of this pulley were, however, filled with heads made of boards. In the center of each head a trunnion was fastened.



**Ready for Use**

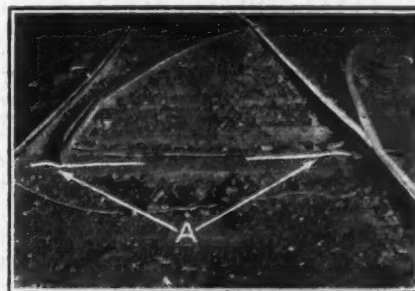
This roller, the main portion or member of which was once a belt wheel, is here shown in the shop where it was built. An eye-bolt has been placed upon either side of the ball. These may form the attachment for two ropes so that in case the ground is so soft and yielding that one man is unable to handle this roller, three or more can pull it along.

The rest of the construction—a two-piece bail and a tongue or handle—was easy. By making this roller, not only was an old, practically scrapped article turned to a useful end, but a far more serviceable and durable machine was obtained than ordinarily could be purchased in the open market.

### "Humped" Strap Reduces Mine Car Wrecks

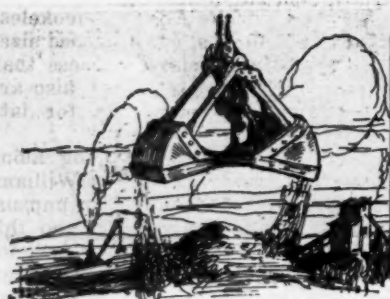
Many mine car derailments occur at room turnouts because latches do not stay in the position in which they are set. In fact so serious is this aggravation that many mining men believe it would pay to employ switch throws on room switches in spite of the cost. The Island Creek Coal Co. overcomes much of the trouble without the use of switch throws by spiking a humped iron strap on the tie under the points of the latches.

The hump lies inside of the latch point when the latter is set against the rail as shown on the right side of the switch in the accompanying illustration, and on the outside when the latch point is set away from the rail as shown on the left side of this illustration. The humped bearing bar holds the points to the position in which they have been set.

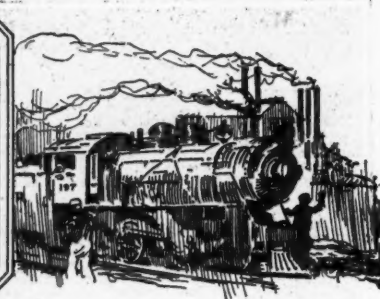


**Holds Switch Points Tight**

The iron strap with the hump in each end ("A") will not let latch points joggle out of position. This lessens derailments at room turnouts.



## Production And the Market



### Upturn in Soft-Coal Market Continues; Anthracite Trade Lively

Demand and inquiry for soft coal continue to improve and a gradual betterment in prices also is in evidence; as production is keeping pace pretty closely with the increased movement of tonnage to consumers' prices advances on the whole have not been especially marked. There is every reason to believe, however, that the upturn will continue to gain headway, particularly if there is suspension of operation at the anthracite mines, as seems almost certain.

There was a letdown in buying of Illinois and Indiana coals in Midwest markets last week, most consumers having got under cover the week before in anticipation of a price advance Aug. 1. The experiment in mail-order coal selling, incidentally, is said to be falling behind the expectations of its sponsors, though an improvement is looked for this month. Steam coals continue to be weak and erratic. Demand is improving in Kentucky and the general outlook is better. Prices are gradually advancing in eastern Kentucky, being unchanged in the western fields. The situation at the head of the lakes is coming around satisfactorily, better bookings and inquiry being noted. Mines in Kansas and the Southwest are reopening in anticipation of better business, which has not appeared as yet. A slight improvement in demand in Colorado has caused a small increase in operation, but the Utah market continues to drag.

Shippers at Cincinnati are sitting tight, letting the buyers come to them, and prices have stiffened right down the line. Coal movement through the Cincinnati gateway from West Virginia and southeastern Kentucky broke all records during the week ended Aug. 1. Domestic demand is slightly stronger in southern Ohio. Week to week changes are slight at Pittsburgh but a

slight gain has been made in the last month. A weakening tendency has appeared in New England, the market having been somewhat overplayed. Gradual improvement is in evidence at New York and Philadelphia but Baltimore and Birmingham are practically as dull as ever, except for some increase in export activity at the former port.

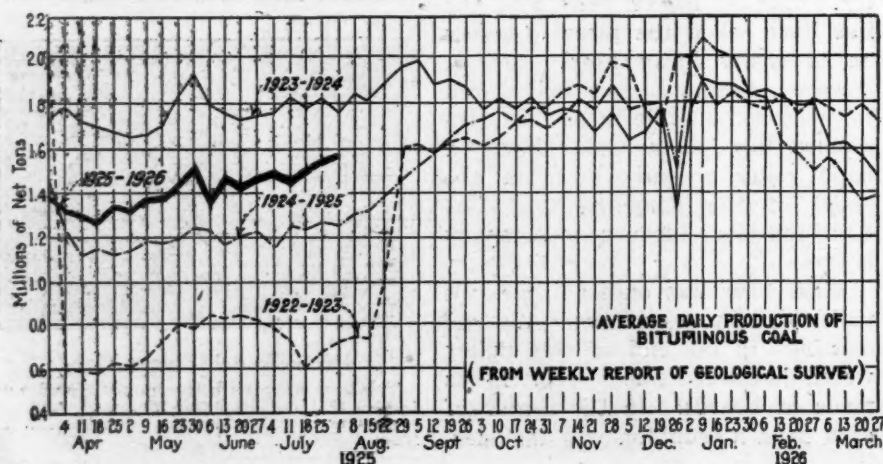
#### Hard-Coal Trade Brisk

Business is lively in hard coal as the likelihood of a suspension of operation increases. The companies are nearly sold out on all sizes. Stove is in strong demand, closely followed by egg. Chestnut is moving well too and pea is coming from storage piles to meet the call. Steam sizes have picked up strongly and the independents are getting full prices for their product without any difficulty.

Bituminous coal output in the week ended Aug. 1 is estimated by the Geological Survey at 9,482,000 net tons, compared with 9,343,000 tons in the previous week, as shown by revised figures. Anthracite production in the week ended Aug. 1 totaled 2,087,000 net tons, compared with 2,049,000 tons in the preceding week.

Coal Age Index of spot prices of bituminous coal advanced three points during the last week, standing on Aug. 10 at 166, the corresponding price being \$2.01.

Dumpings at Lake Erie ports during the week ended Aug. 9 were: Cargo, 901,800 net tons; steamship fuel, 40,189 tons—a total of 941,989 net tons, compared with 987,996 tons in the previous week. Hampton Roads dumpings in the week ended Aug. 6 totaled 461,260 net tons, compared with 445,793 tons in the preceding week.



#### Estimates of Production

(Net Tons)

##### BITUMINOUS

	1924	1925
July 18 (a).....	7,644,000	8,965,000
July 25 (b).....	7,785,000	9,343,000
August 1 (b).....	7,723,000	9,482,000
Daily average.....	1,287,000	1,580,000
Cal. yr. to date..... (a) 266,579,000	275,562,000	
	1,482,000	1,529,000

##### ANTHRACITE

July 18.....	1,840,000	1,985,000
July 25.....	1,837,000	2,049,000
August 1.....	1,720,000	2,087,000
Cal. yr. to date..... (c) 53,709,000	53,924,000	

##### COKE

July 25 (a).....	99,000	251,000
August 1 (b).....	95,000	117,000
Cal. yr. to date..... (c) 6,502,000	5,848,000	

(a) Revised since last report. (b) Subject to revision. (c) Minus two days' production to equalize number of days in the two years.



## Midwest Market Has a Lull in Buying

Following the price advance in the Middle West on Illinois and Indiana domestic coals as of Aug. 1 there was, as was expected, a little lull in buying and orders dropped off, as practically everyone who was in the market had placed orders before the increase. The publicity being given to the anthracite wage negotiations and until recently to the British situation led to active buying, and it is reported that several of the larger corporations operating mines in Illinois have made definite arrangements to reopen their mines permanently for the season. Most of the mines being reopened are in Franklin, Williamson and Saline counties, although activities are reported in other fields.

The mail order coal experiment, it is said, is not meeting with the enthusiasm from the public that had been anticipated. It is thought that the mail order people will do a great deal better in August owing to the unusual situation in the anthracite fields and the usual seasonal demand.

Steam coals are week and erratic, as has been the case for some months. There has been no real buying yet and Western Kentucky operators are selling strip screenings in some cases as low as 75c. a ton.

Anthracite sales agencies in three or four instances have withdrawn all prices from the Chicago market, asserting that they are sold up until Sept. 1 and, owing to the uncertainty of the labor situation as of that date, do not care

to take on further obligations. Some of the smokeless producers have quoted \$3.50, f.o.b. mines, for prepared sizes to the trade and say they are getting more business than they can comfortably handle on this basis. They also are asking \$2.25 @ \$2.50 for smokeless mine run for late August shipment.

Domestic business in southern Illinois is coming along unusually well judging from the way the mines in Williamson, Franklin and Saline counties are working. An unusual amount of the smaller sizes is unbilled, however, and this means that some mines are considering storing a good tonnage of this coal if they hope to move the larger sizes. Some mines are working practically full time and others are down to two days a week, but conditions show considerable improvement and railroad tonnage from the shaft mines is good. Steam is slow. The strip mines are all showing good working time although a lot of coal is going out at unusually low prices. Here and there in the field a few crushers are operating on contract coal. All over these fields preparations are under way for reopening mines that have been idle for many months.

In the Duquoin field there is some increased activity, but not to the same extent as in Franklin County. Working time is three days a week for the mines that are working and strip mines are getting practically full time. In the Mt. Olive district very little is moving as yet. Steam sizes are still being crushed at some mines and railroad tonnage

## Current Quotations—Spot Prices, Bituminous Coal—Net Tons, F.O.B. Mines

Low-Volatile, Eastern					Midwest				
	Market Quoted	Aug. 11 1924	July 27 1925	Aug. 3 1925	Aug. 10 1925†		Market Quoted	Aug. 11 1924	July 27 1925
Smokeless lump.....	Columbus....	\$3.60	\$2.85	\$2.85	\$2.75@3.00	Franklin, Ill. lump.....	Chicago.....	\$2.85	\$2.60
Smokeless mine run.....	Columbus....	2.10	1.85	1.85	1.75@2.00	Franklin, Ill. mine run.....	Chicago.....	2.35	2.35
Smokeless screenings.....	Columbus....	1.20	1.35	1.35	1.25@1.50	Franklin, Ill. screenings.....	Chicago.....	1.70	2.00
Smokeless lump.....	Chicago.....	3.85	3.10	3.25	3.25	Central Ill. lump.....	Chicago.....	2.50	2.35
Smokeless mine run.....	Chicago.....	1.85	2.00	2.00	1.90@2.10	Central Ill. mine run.....	Chicago.....	2.10	2.10
Smokeless lump.....	Cincinnati.....	3.85	2.85	3.00	3.00@3.25	Central Ill. screenings.....	Chicago.....	1.60	1.70
Smokeless mine run.....	Cincinnati.....	1.85	2.00	2.00	2.00@2.15	Ind. 4th Vein lump.....	Chicago.....	2.60	2.60
Smokeless screenings.....	Cincinnati.....	1.30	1.30	1.30	1.35@1.50	Ind. 4th Vein mine run.....	Chicago.....	2.35	2.35
*Smokeless mine run.....	Boston.....	4.20	4.35	4.40	4.25@4.35	Ind. 4th Vein screenings.....	Chicago.....	1.70	1.80
Clearfield mine run.....	Boston.....	1.90	1.80	1.75	1.65@1.90	Ind. 5th Vein lump.....	Chicago.....	2.35	2.25
Cambridge mine run.....	Boston.....	2.25	1.95	1.95	1.85@2.10	Ind. 5th Vein mine run.....	Chicago.....	2.10	1.95
Somerset mine run.....	Boston.....	2.05	1.85	1.85	1.75@2.00	Ind. 5th Vein screenings.....	Chicago.....	1.55	1.50
Pool 1 (Navy Standard).....	New York.....	2.30	2.55	2.55	2.35@2.75	Mt. Olive lump.....	St. Louis.....	2.85	2.50
Pool 1 (Navy Standard).....	Philadelphia.....	2.80	2.60	2.60	2.45@2.75	Mt. Olive mine run.....	St. Louis.....	2.50	2.25
Pool 1 (Navy Standard).....	Baltimore.....	.....	1.85	1.85	1.80@1.95	Mt. Olive screenings.....	St. Louis.....	2.00	1.75
Pool 9 (Super. Low Vol.).....	New York.....	2.05	1.95	1.95	1.80@2.10	Standard lump.....	St. Louis.....	2.15	2.25
Pool 9 (Super. Low Vol.).....	Philadelphia.....	2.15	2.00	2.00	1.85@2.20	Standard mine run.....	St. Louis.....	1.80	1.80
Pool 9 (Super. Low Vol.).....	Baltimore.....	1.95	1.75	1.75	1.65@1.85	Standard screenings.....	St. Louis.....	1.20	1.30
Pool 10 (H.Gr. Low Vol.).....	New York.....	1.95	1.80	1.75	1.65@1.90	West Ky. block.....	Louisville.....	2.10	1.65
Pool 10 (H.Gr. Low Vol.).....	Philadelphia.....	1.75	1.70	1.70	1.60@1.85	West Ky. mine run.....	Louisville.....	1.60	1.15
Pool 10 (H.Gr. Low Vol.).....	Baltimore.....	1.70	1.60	1.60	1.55@1.65	West Ky. screenings.....	Louisville.....	1.15	.85
Pool 11 (Low Vol.).....	New York.....	1.60	1.55	1.60	1.50@1.75	West Ky. block.....	Chicago.....	2.05	1.90
Pool 11 (Low Vol.).....	Philadelphia.....	1.45	1.55	1.55	1.50@1.60	West Ky. mine run.....	Chicago.....	1.60	1.35
Pool 11 (Low Vol.).....	Baltimore.....	1.55	1.40	1.40	1.35@1.45				

High-Volatile, Eastern					South and Southwest				
	Market Quoted	Aug. 11 1924	July 27 1925	Aug. 3 1925		Market Quoted	Aug. 11 1924	July 27 1925	Aug. 3 1925
Pool 54-64 (Gas and St.).....	New York.....	1.50	1.50	1.60	1.45@1.70	Big Seam lump.....	Birmingham.....	3.40	2.00
Pool 54-64 (Gas and St.).....	Philadelphia.....	1.50	1.50	1.50	1.45@1.60	Big Seam mine run.....	Birmingham.....	1.75	1.75
Pool 54-64 (Gas and St.).....	Baltimore.....	1.45	1.35	1.35	1.30@1.45	Big Seam (washed).....	Birmingham.....	2.00	1.85
Pittsburgh se'd gas.....	Pittsburgh.....	2.40	2.40	2.40	2.30@2.50	S. E. Ky. block.....	Chicago.....	2.10	2.55
Pittsburgh gas mine run.....	Pittsburgh.....	2.10	2.15	2.15	2.10@2.25	S. E. Ky. mine run.....	Chicago.....	1.50	1.70
Pittsburgh mine run (St.).....	Pittsburgh.....	1.85	1.95	1.95	1.90@2.00	S. E. Ky. block.....	Louisville.....	2.10	2.25
Pittsburgh slack (Gas).....	Pittsburgh.....	1.30	1.50	1.50	1.40@1.60	S. E. Ky. mine run.....	Louisville.....	1.55	1.55
Kanawha lump.....	Columbus.....	2.10	2.00	2.00	1.90@2.15	S. E. Ky. screenings.....	Louisville.....	.95	1.10
Kanawha mine run.....	Columbus.....	1.40	1.40	1.40	1.35@1.50	S. E. Ky. block.....	Cincinnati.....	2.35	2.35
Kanawha screenings.....	Columbus.....	1.05	1.15	1.15	1.10@1.25	S. E. Ky. mine run.....	Cincinnati.....	1.45	1.45
W. Va. lump.....	Cincinnati.....	2.25	2.25	2.35	2.25@2.50	S. E. Ky. screenings.....	Cincinnati.....	.95	1.15
W. Va. gas mine run.....	Cincinnati.....	1.45	1.40	1.45	1.50@1.65	Kansas lump.....	Kansas City.....	4.50	4.00
W. Va. steam mine run.....	Cincinnati.....	1.45	1.30	1.30	1.40@1.50	Kansas mine run.....	Kansas City.....	3.50	3.00
W. Va. screenings.....	Cincinnati.....	.85	1.15	1.15	1.25@1.35	Kansas screenings.....	Kansas City.....	2.50	2.50
Hooking lump.....	Columbus.....	2.45	2.15	2.15	2.00@2.30				
Hooking mine run.....	Columbus.....	1.55	1.55	1.55	1.45@1.70				
Hooking screenings.....	Columbus.....	1.05	1.35	1.35	1.25@1.45				
Pitts. No. 8 lump.....	Cleveland.....	2.40	2.25	2.25	1.90@2.60				
Pitts. No. 8 mine run.....	Cleveland.....	1.85	1.90	1.90	1.85@1.95				
Pitts. No. 8 screenings.....	Cleveland.....	1.20	1.40	1.45	1.40@1.50				

\* Gross tons, f.o.b. vessel, Hampton Roads.

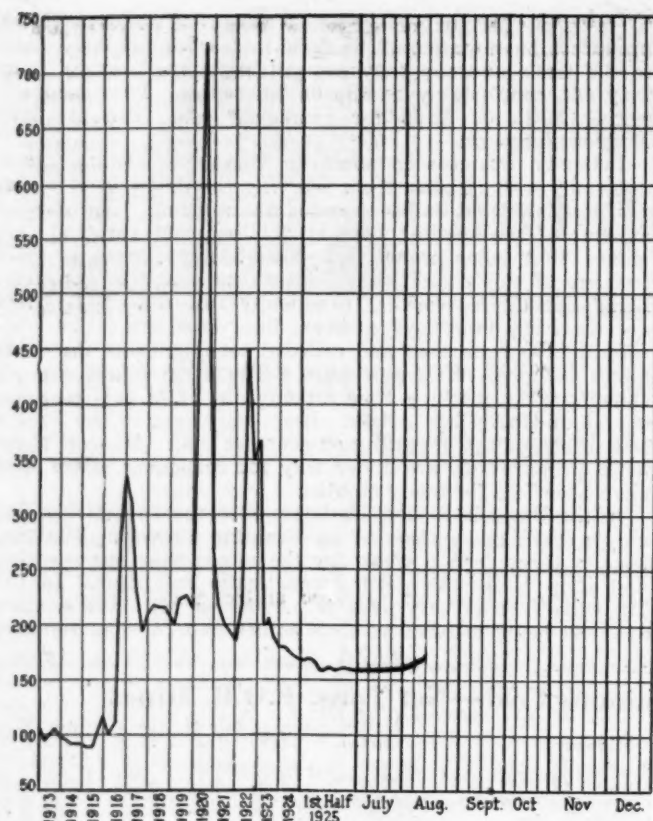
† Advances over previous week shown in heavy type; declines in italics.

‡ The term block is used instead of lump in order to conform to local practice, but the same coal is being quoted as heretofore.

## Current Quotations—Spot Prices, Anthracite—Gross Tons, F.O.B. Mines

		August 11, 1924		August 3, 1925		August 10, 1925†	
Broken.....	Market Quoted	Freight Rates	Independent	Company	Independent	Company	Independent
Broken.....	New York.....	\$2.34	.....	\$8.00@9.10	.....	\$8.20@8.90	.....
Broken.....	Philadelphia.....	2.39	.....	8.90@9.05	.....	8.25@8.90	.....
Egg.....	New York.....	2.34	\$8.50@8.75	8.65@9.10	\$9.25@9.50	8.65@8.90	.....
Egg.....	Philadelphia.....	2.39	9.00@9.70	9.00@9.05	8.80@9.40	8.70@8.85	.....
Egg.....	Chicago.....	5.06	8.10@8.25	8.02@8.12	7.66@8.60	7.54@8.28	8.17@8.60
Stove.....	New York.....	2.34	9.25@9.60	8.65@9.45	9.75@10.00	9.15@9.40	8.75@10.00
Stove.....	Philadelphia.....	2.39	9.35@10.00	9.05@9.10	9.40@9.75	9.15@9.30	8.75@10.00
Stove.....	Chicago.....	5.06	8.40@8.60	8.30@8.45	8.22@8.70	8.32@8.80	8.71@8.90
Chestnut.....	New York.....	2.34	8.25@8.75	8.65@9.15	9.25@9.50	8.65@8.90	9.25@9.50
Chestnut.....	Philadelphia.....	2.39	8.85@9.80	9.00@9.05	8.80@9.65	8.85@8.90	9.15@10.15
Chestnut.....	Chicago.....	5.06	8.20@8.32	8.24@8.38	8.24@8.45	7.79@8.10	8.24@8.45
Pea.....	New York.....	2.22	4.50@5.25	5.50@6.00	5.25@5.75	5.00@5.55	5.00@5.55
Pea.....	Philadelphia.....	2.14	5.75@6.25	5.75@6.00	5.50@5.75	5.00@5.50	5.50@5.90
Pea.....	Chicago.....	4.79	5.15@5.60	5.36@5.91	4.91@5.36	4.91@5.36	4.91@5.36
Buckwheat No. 1.....	New York.....	2.22	2.00@2.25	3.00@3.15	2.25@2.50	2.50	2.15@2.60
Buckwheat No. 1.....	Philadelphia.....	2.14	2.50@3.00	3.00	2.15@2.75	2.50	2.50@2.75
Rice.....	New York.....	2.22	1.70@2.00	2.00@2.25	2.00@2.25	2.00	2.00@2.25
Rice.....	Philadelphia.....	2.14	2.00@2.25	2.25	1.85@2.00	2.00	2.00@2.25
Barley.....	New York.....	2.22	1.15@1.40	1.50	1.50@1.75	1.50@1.60	1.50@1.75
Barley.....	Philadelphia.....	2.14	1.50	1.50	1.40@1.50	1.50	1.50@1.75
Birdseye.....	New York.....	2.22	.....	1.60	.....	1.60	.....

\* Net tons, f.o.b. mines. † Advances over previous week shown in heavy type; declines in italics.



Coal Age Index of Spot Prices of Bituminous Coal F.O.B. Mines

Index	1925				1924
	Aug. 10	Aug. 3	July 27	Aug. 11	Aug. 11
Weighted average price	166	163	160	163	163
	\$2.01	\$1.97	\$1.94	\$1.98	\$1.98

This diagram shows the relative, not the actual, prices on fourteen coals, representative of nearly 90 per cent of the bituminous output of the United States, weighted first with respect to the proportions each of slack, prepared and run-of-mine normally shipped, and, second, with respect to the tonnage of each normally produced. The average thus obtained was compared with the average for the twelve months ended June, 1914, as 100, after the manner adopted in the report on "Prices of Coal and Coke; 1913-1918," published by the Geological Survey and the War Industries Board.

is light. Working time is poor, too. In the Standard field coal is going at about cost, with working time low and demand light. Steam sizes are beginning to worry the operators, but if steam is worrying them now, what will it be when business gets good on domestic? Railroad tonnage is easing with mines getting from two to three days and exceptionally four days a week. All have "no bills" and coal is selling at about cost. Prices are unchanged.

In St. Louis there is considerable activity in a retail way for the better grades of Illinois coal. Anthracite, smokeless and coke are a little slow, principally because the people who have bought this fuel in the past are now using oil. Southern Illinois high grade is moving well but Mt. Olive is not active and Standard is delivered only to cheap storage apartments. Local wagonload steam is slow and carload is easy, with no unusual demand. Country domestic is beginning to show up much better—for the better grades principally. Several sections carry no west Kentucky rates and this is making business good for Illinois. West Kentucky continues to move in volume to Illinois and Iowa points and the demand for anthracite has eased off. Country steam is light. There has been an increase in the price of domestic coals in St. Louis of about 25c. a ton.

#### General Situation Better in Kentucky

Coal demand in the Kentucky fields is better than it has been and the general situation has improved. With the active season at hand prices in eastern Kentucky are gradually being advanced, the prepared sizes being about 25c. a ton higher than they were a short time back. Block has gone to \$2.25 @ \$2.75, with some specialty coals at \$3. Lump and egg have advanced to \$2 @ \$2.25. Such little nut as is produced in the Hazard field is \$1.75 @ \$2. Mine-run is unchanged at \$1.35 @ \$1.75; but screenings are up to \$1.10 @ \$1.25.

In western Kentucky prices are unchanged over the week.

A few screenings orders have been taken at 75c., but the market is 80 @ 90c. Mine-run is still weak at \$1.10 @ \$1.25. Nut is \$1.45 @ \$1.60; lump and egg, \$1.50 @ \$1.75; 6-in. block, \$1.75 @ \$1.85.

Domestic consumers are starting to stock, and retailers, noting a steady advance in prices, are stocking their yards. Industrial consumers are playing safe and ordering steam coal in quantities.

Steam buyers have been fooled this year. They had anticipated 50c. screenings out of eastern Kentucky, but the market has remained at \$1 and over. It has been an unusual year in that respect. Part of this has been due to the smaller production of prepared in the union districts, throwing a heavier industrial demand for screenings on the non-union fields. The operators also have shown greater firmness in maintaining markets. Ninety cents has been the lowest price reported for some time, and that occurred only over short periods when embargoes prevented immediate movement north of the Ohio River, which meant unloading in Kentucky. Some good contract business has been placed of late.

#### Northwest Trade Perks Up

Dock operators say the situation at Duluth is straightening out satisfactorily. Inquiry is better from dealers in the agricultural districts of Minnesota and North Dakota and they are placing orders for fair tonnages of both bituminous and anthracite. Slightly better bookings are reported also from iron mining companies on the Minnesota ranges in preparation for heavier operations, and better bookings from that quarter are expected in the near future. Ordering of steam coal by industrial concerns over Minnesota is said to be improving.

Demand for anthracite remains slow, due to the high cost of hard coal and an increasing disposition to use Pocahontas and other smokeless substitutes for heating private houses. The trade is no longer able to make use of the scarcity bogey as a rallying cry in soliciting orders, for anthracite customers know that about 575,000 tons of that coal is on the docks. It is to be noted that the movement of anthracite this way from the mines has fallen off during the last few weeks as the mining companies have been shipping to points where that coal was needed to a greater extent.

Forty-one cargoes of coal, including only two of anthracite, were unloaded at the docks last week and nine cargoes of anthracite were reported en route. No delays were experienced in unloading cargoes as they arrived, space having been made through outgoing shipments. Quotations of both hard and soft coal are unchanged but firmer.

Interest in Milwaukee's coal trade is focused upon the anthracite wage imbroglio. Dealers would like to see the anthracite moving from their docks to make room for further receipts, but householders have been slower than usual this year in ordering winter supplies. Better demand is reported, however, and dealers are urging consumers to order without further delay. The receipts of hard coal by cargo thus far this season are about the same as they were at this time last year—nearly 400,000 tons. Dealers advanced anthracite prices 10c. a ton Aug. 1, and raised the price of coke 50c.

#### More Mines Open in Southwest

More mines are being opened in Kansas each week, more in anticipation of a heavy fall demand than on present market justification. A slight improvement is noticeable in the domestic market as dealers prepare for the early home demand, but householders are not yet buying. Some activity has begun in Arkansas, some under the 1917 wage scale as well as under the 1924 scale but with modifications of the 1924 contract, while some operators declare they will not reopen their Arkansas mines until they are assured they can be operated uninterruptedly at a lower cost than last year.

In the Colorado market there is a slight improvement in the demand for domestic lump and nut coal, which has resulted in a slight increase in mine operations, which are now averaging about three days a week. From now on a substantial increase in orders for immediate delivery is expected. The price on Dawson (N. M.) domestic lump and fancy egg is \$4; fancy nut, \$3.75; fancy pea, \$3.25; base burner coke, nut size, \$6.

The coal market in Utah continues draggy. Winter storage orders are increasing slightly, but they are far behind what they should be for the time of year. There is



considerable talk of increasing prices and it is likely that an advance will take place at an early date. Industrial demand for coal is largely confined to the mines and smelters, cement plants and the railroads, but no industry is taking much coal at the present time. The sugar companies should be storing coal on a larger scale right away.

### Record Movement Via Cincinnati Gateway

The rapidly changing front to the Cincinnati market is best shown by the scarcity of offers of tonnage by the wholesalers who had been busiest in putting their coals before buyers for four or five months. And prices have stiffened all along the line.

In the week ending Aug. 1 no less than 14,793 cars of coal passed through the Ohio River gateways, 1,500 more than the peak record made before, or 5,164 cars more than in the corresponding week of last year. Of the grand total 5,164 cars went to the lake, making another record for a week's movement.

The West and Northwest are the best sales spots. Southern and Southeastern points that buy off this market are in a slump. Domestic lump is much firmer in price. While West Virginia prices indicate the same range, more coal is selling around \$2.50 than at the low. Southeastern Kentucky producers are making \$2.75 the price on their block where they have better grades to offer, though some can still be had at the \$2.40 low. Mine-run has stiffened and is in demand while slack and screenings have moved up from 10c. to 20c. Egg sizings are beginning to show a seasonal lack of demand though lake buyers are after 2-in. to the point that it has advanced to a \$1.75 low.

Smokeless business has had a refreshing upturn with all lump and egg now firmly held at \$3 and most of the direct selling agents asking \$3.25. Mine-run is \$2 and a shade better where it can be had, and steel and iron plants that did not cover themselves before the leap in demand have to pay from \$1.35 to \$1.50 for screenings that can be booked. Here and there on this market the report comes that companies are booked up to capacity for the month except for free tonnage held for spot selling.

There has been no change in retail prices and river business plugs along as usual.

At Columbus there is a better demand for domestic sizes, retailers buying to replenish low stocks. A majority of orders are for immediate delivery. Householders also are coming into the market with the threat of an anthracite strike. Prices have stiffened materially, especially on the better grades from West Virginia and Kentucky. Ohio mined coals are selling better, although there is no particular increase in price. Smokeless is in good demand and retails at \$8 @ \$8.50; splints at \$7 @ \$7.50 and Kentucky block coals at about the same levels. Ohio coals both from the Hocking Valley proper and Pomeroy Bend fields are selling at \$6 @ \$6.50 delivered.

Little change has taken place in the steam trade, where buying is from hand to mouth. Reserves are only fair, but none of the larger users is showing concern. Contracting is somewhat better, although the larger number of users are buying on the spot market. Distress coal is not being offered to any extent and the regular prices are prevailing on spot shipments.

### Demand Gains Slightly at Pittsburgh

There is practically no change in the Pittsburgh coal market in the last week, but over the past thirty days there probably has been a slight progressive increase in demand—hardly enough to be noticed from one week to the next. It would take a great deal to move prices, there being so many mines operating part time which would be glad to

sell more, but prices are as low as they can go without an actual loss to operators.

Predictions are more widespread that demand will increase substantially near future, as demand for domestic usually opens up at about this time of year, though none of consequence has yet been seen. Industrial consumers also are expected to replenish stocks, as they are unusually low.

Save for interest in the possibility of a hard-coal strike the situation at Buffalo has not changed. There is some stiffness on slack, especially the gas slack variety, and the price has gone up a few cents, but that does not indicate any increase of demand. The mines that turn out this coal are shut down largely, they say.

Some of the bituminous interests here are in line for establishing new process coke and briquet processes, but they are all in just the stage when it is forbidden to say anything about them in print.

No direct report of coal consumption is to be had, but it does not appear that there is much, if any, falling off. Factories have kept up well during the summer.

Supplies of coal in the hands of Toronto dealers are larger than usual at this time of the year and coke also is exceptionally plentiful, large stocks having been laid in in anticipation of a strike. Dealers are now finding it increasingly difficult to get orders filled at the mines. The usual fall increase in the price of anthracite went into effect on Aug. 1, several weeks earlier than in recent seasons. Quotations were advanced from \$15 to \$15.50 and for coke from \$12 to \$12.50. While a shortage of anthracite when present stocks are exhausted is not unlikely, dealers state that they do not anticipate any difficulty in supplying consumers with coke.

### New England Trade Sags Again

Once again there are indications of weakness in the New England market for steam coal. The settlement or, rather, the postponement of labor troubles in the British coal fields together with increased production in the smokeless districts of West Virginia have forced a few shippers to shade spot prices enough to move coal that was threatening to accumulate. In other words, the pressure of slightly higher prices ten days to a fortnight ago was more than certain operating interests could withstand and now the carefully built structure, the work of many weeks, is likely to fall to the ground. The top level for high-grade Pocahontas and New River mine-run on board vessels at Hampton Roads is understood to be \$4.25@4.35 and it would not be surprising to see quotations back on the May and June basis.

On cars Boston for inland delivery spot figures have slumped from \$5.65@5.75 to \$5.40@5.50, and apparently they will go lower. There is no buying of sufficient volume to support the higher prices that were asked, and in the face of expected arrivals there was bound to be a rectification from a basis that is now seen to have been artificial.

The retail situation in Boston also is affected, and dealers are finding it hard work to preserve their present price of \$7.50 per net ton delivered. The impending supervision of mining in the anthracite region is causing reaction here thus far in the bituminous situation.

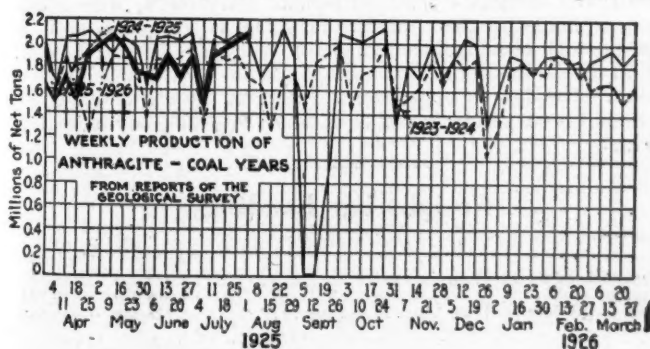
The Pennsylvania coals, both all-rail and by water, are floundering along on the same minimum price basis that has been the case for several months. Only small tonnages are anywhere in request.

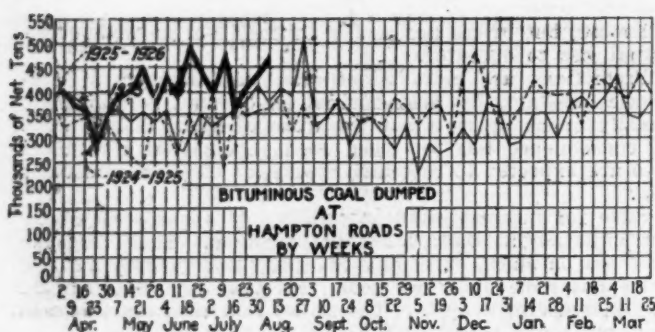
### Interest Growing in New York

While there is no rush of orders the bituminous coal market at New York is in fair shape. Buying has picked up and consumers are showing more interest. This is probably due to the prospective suspension of anthracite mining although most producers believe the stoppage will have to continue for more than thirty days to affect the soft-coal industry.

Screened bituminous coal showed a little more activity the latter part of the week, but the orders were not heavy. Some operators and shippers report inquiries regarding short-term contracts, buyers showing a desire to protect themselves in the event of prolonged trouble.

There is a feeling of strength in the Philadelphia soft-coal market, as consumers are coming along with requests for quotations more freely than for some time. A good many of these inquiries are being translated into orders, but without any evidence of a rush. Some fairly good rail-





road business has been closed and the utilities also are ordering better.

The better demand has affected prices only to the extent that everyone is convinced that the present schedule cannot stand much longer. Contract customers also are calling for a better supply on their agreements, and this is helping the market.

While not much tidewater business has turned up of late, the Southern ports are shipping more heavily to Northern points on account of the possibility of anthracite trouble, and it should not be long before this market is affected favorably.

The outstanding feature of the Baltimore bituminous trade is the increased activity in export trade, more than a dozen charters having been made for August loadings from this port. The delivery points for the most part are those which have been taking British coal. The home market continues unexcited and there is not much optimism over the immediate outlook, although some of the dealers expect a considerable increase in the use of soft coal in homes as a result of present prices of anthracite, even should there be no strike of hard-coal workers to further accelerate this demand. Production continues in excess of immediate demands and competition is overkeen. There is somewhat of an increase in demand for industrial storage also and purchasing agents generally are making more inquiries than for some time past.

#### Domestic Trade Dull at Birmingham

Conditions at Birmingham have changed very little in the last week. Domestic is as dull as ever, inquiry being exceedingly light in the open market and restrictions on contract deliveries have not been lifted as yet. Current production is hard to dispose of, making it difficult for the mines to handle steam business as promptly as desired, and in some instances barring the taking of additional orders. In view of the fact that there has really been no buying movement in the retail domestic trade so far and the stocking of household fuel is far behind normal at this season, improvement is confidently expected by dealers during this month. Until such relief comes activity in the wholesale market is not expected.

The steam market possibly gained a little more strength during the past week, the number of spot sales having been slightly greater as reported in some quarters. The opening of the ginning season affords a market for some additional tonnage, but otherwise the sources of consumption have not been augmented materially. Inability to dispose of domestic sizes, which hampers operations, is causing activity to be accentuated in the steam trade in a measure not justified by any material increase in requirements. Some of the well-established operations, however, have sufficient business in hand to maintain practically full-time schedules.

Production is running about 350,000 tons per week. Labor supply is in excess of needs and ample to produce the potential capacity of the field if required. Quotations are unchanged.

#### Hard Coal Market Lively

Increased demand and a lively market for stove coal continue in New York. The breaking off of wage conferences and the urging by officials to consumers to fill their bins served to stimulate interest and dealers report much more activity with a desire by householders to put in coal. Independent coals are active and the larger companies have sufficient orders ahead to keep their tonnage on the move.

Egg and chestnut are in good demand, the first named following closely after stove in demand. Pea coal also is in

good call, the demand showing more strength inland than in the metropolitan area. The steam coals are moving well, barley being out of the market with some producers and sales agents.

At Philadelphia the boom in anthracite is on and most of the shipping companies are nearly sold up on all sizes, with the possible exception of pea, and the local retail trade is not able to fill up its bins as promptly as earlier in the season.

All the producers advanced prices Aug. 1, the companies for the most part making the usual 10c. increase, although independent shippers added from 25 to 50c. a ton. Some of the smaller shippers are asking even more than that, but are not getting it in this market.

Stove is the wanted size, although the stage has not been reached where the local dealer is willing to pay a premium to get it. Egg also is difficult to get, and nut is moving in fairly well. Company shippers have no trouble in disposing of pea, and are even drawing on storage stocks for some of it. The independents still have a little trouble in moving this size promptly. The trade now expects a long suspension of mining.

Steam coals have picked up strongly, with all company shippers taking coal from storage yards to meet the demand. The market has gained such strength that independents are able to get full prices for their output, and before long may be able to get a premium.

Baltimore retailers are urging customers to make sure of protection during the early winter by ordering fuel at once, but the response to date has not been energetic. A number of consumers have found that they can use the better grades of soft coal in emergencies and the introduction of oil burners as a factor in the situation also is not to be ignored. A hard-coal strike, with a shortage in supply or any further material advance in hard-coal prices at retail will undoubtedly cause the installation of many more oil burners, with a considerable permanent loss of business to both retail dealers and anthracite operators.

At Buffalo the demand for anthracite is good. Consumers have come forward with orders just about fast enough to make it possible to meet them without distress. If demand continues at its present gait the output of coal can be taken up right along and the winter-cellar stocks be pretty well replenished by Sept. 1. Independent coal is doing well and some schedule companies have sold all their small sizes.

At the same time the sale of coke does not improve much. It is hard to get people to believe in it. One shipper says that it will take either a recommendation from a friend who has used it or a shortage of anthracite. The curb price is still \$9@9.50.

Lake shipments of anthracite for the week were only 30,800 tons, being 18,000 to Duluth and Superior, 6,800 tons to Chicago and 6,000 tons to Milwaukee.

#### Connellsville Coke Market Dull

Prices are unchanged in the Connellsville coke market and there is no discernible change in the volume of demand. The market is very dull indeed. Hopes are widespread but by no means universal that the coke trade is going to improve, due to a suspension at the anthracite mines. It seems somewhat curious that this is talked of as the hopeful thing, when there is merely a chance, while improvement in the iron and steel industry, which is almost universally predicted, is rarely mentioned as representing a favorable prospect. The explanation probably is that anthracite is a much bigger thing in a tonnage way.

The spot furnace coke market continues to be confined to small lots bought by miscellaneous consumers, who seem to have made up their minds that \$2.90 is the price, and no more can be obtained, though many operators talk of having \$3 as their asking price. Blast furnaces are not buying at all. The few in operation are covered by contracts.

Spot foundry coke remains at \$3.75 to \$4.25, buying being light.

#### Freight Car Loadings

	Cars Loaded	
	All Cars	Coal Cars
Week ended July 25, 1925.....	1,029,603	178,030
Previous week.....	1,010,970	170,742
Week ended July 26, 1924.....	926,309	146,652



## Foreign Market And Export News

### British Coal Market Unsettled by Recent Strike Threat

Business in the Welsh coal trade of late has been very unsettled due to the strike of miners threatening for so long. Practically all available supplies have been taken up by contractors, and the collieries have been left with only small parcels at their disposal. There has been no reopening of the pits closed down as unremunerative some time ago. Buyers abroad have sought to anticipate August requirements, and shipments are being made as rapidly as possible. There is a firmer tendency.

In the Newcastle market buyers have been showing anxiety to obtain prompt supplies, the result being that loading turns are filled to the end of the week and prices have risen accordingly, now standing at higher figures all round. Although this is the position for prompt delivery, there is a complete dearth of later business. Contract business is hardly in evidence.

Output by British collieries in the week ended July 25, a cable to *Coal Age* states, totaled 4,525,000 tons, compared with 4,890,000 tons in the preceding week.

#### Domestic Calls More Active In French Market

The situation in the French coal market has not essentially changed. Industrial demand continues extremely low but with regard to household fuels, things are certainly looking up.

The North and Pas-de-Calais coal companies have decided to continue until Sept. 15, the allowance for the high cost of living at the rate of 20 per cent. Labor unrest has arisen in the Sarre basin, due partly to the diminished buying power of the franc in the face of the high cost of living in Germany and partly to the waning of France's prestige in the Sarre territory with the evacuation of the Ruhr by the army. This agitation has caused a decrease in output which has obliged the management of the domanian collieries to close a number of pits for several days. The miners have asked an increase in wages and the government has offered 5 per cent, which has been deemed insufficient. Therefore a strike is not unlikely.

During the first eleven days of July the Office des Houillères Sinistrées received 206,300 tons of reparation fuels including 102,900 tons of coal, 95,700 tons of coke and 7,700 tons of lignite briquets, a daily average of about 18,755 tons. Receipts for June were 505,600 tons, including 256,000 tons of coal, 224,400 tons of coke and 24,400 tons of lignite briquets. During the first twenty-one days of July the O.R.C.A. received from the Ruhr 151,411 tons of coke, a daily average of around 7,200 tons.

#### Hampton Roads Market Firmer In All Directions

The Hampton Roads market was given some impetus last week by the impending hard-coal strike, and prices were strengthened, although it was largely to the benefit of the operator rather than the shipper. Numerous inquiries were reported and some rather heavy buying was in prospect, although no long contracts were being offered.

Movement of coal to Canadian ports, with scattered shipments to Europe and South America, featured the export trade. August began with great activity at the terminals, and the trade awaits with anxiety the outcome of miners' wage negotiations in the next few weeks. The tone of the market was strong.

#### Belgian Market Hampered by Metallurgical Strike

The Belgian coal market, on the whole, shows no improvement. The strike of the metallurgical and structural industries has had an unfavorable effect and the extension of the conflict to the Liège Basin, up till now unaffected, is sure to be prejudicial to the collieries of that district. Of course, industrial grades are hit the hardest and in the Borinage the most men are out of work. In spite of restriction of output stocks amount to around two and a half million tons.

Demand for smalls for brick and cement making is fairly satisfactory, but it is weaker for lime-kiln fuels. There are no stocks of dry duffs in the

Charleroi Basin. Household grades are quite firm, particularly dry and anthracitic grades.

#### Export Clearances, Week Ended Aug. 8, 1925

FROM HAMPTON ROADS	
For Virgin Islands:	Tons
Nor. Str. Wascana, for St. Thomas.	7,695
For Canada:	
Br. Str. Twickenham, for Quebec...	7,325
Ital. Str. Severitas, for Montreal...	7,292
Ger. Str. Hanna Kimme, for Montreal	3,470
Br. Str. Cento, for Quebec	2,468
Nor. Str. Marstanea, for Quebec	2,684
Amer. Schr. Georgetown, for St. Stephens	672
Br. Str. Blackheath, for Quebec	7,474
Br. Str. Manchester Spinner, for Quebec	7,380
For Newfoundland:	
Nor. Str. Thorgerd	3,644
For Nova Scotia:	
Br. Str. Hochelaga, for Sydney	7,201
For Argentina:	
Ital. Str. Maria Adele, for Buenos Aires	8,953
For Brazil:	
Br. Str. Sandsend, for Rio de Janeiro	4,566
For British West Indies:	
Dan. Str. Norlys, for Port of Spain	5,025
For Cuba:	
Dan. Str. Orkild, for Ensenada de Mora	3,268
Br. Str. Berwindmoor, for Havana	9,774
Dan. Str. Nordhavet, for Guayabal	4,045
Nor. Str. Lisbeth, for Havana	2,997
For Italy:	
Ital. Str. Maria Enrica, for Porto Ferrajo	11,012
For Spain:	
Ital. Str. Enrichetta, for Gibraltar	6,962
For Algeria:	
Nor. Str. Fotinia, for Algiers	7,204

FROM PHILADELPHIA	
For Porto Rico:	
Br. Str. Isabella, for San Juan	—

FROM BALTIMORE	
For Italy:	
Ital. Str. Campania, for Genoa	6,800

#### Hampton Roads Pier Situation

N. & W. Piers, Lamberts, Pt.:	July 30	Aug. 6
Cars on hand	1,613	1,579
Tons on hand	100,449	98,707
Tons dumped for week	158,651	155,645
Tonnage waiting	6,000	16,000
Virginian Piers, Sewalls Pt.:		
Cars on hand	859	886
Tons on hand	64,150	69,900
Tons dumped for week	78,400	80,070
Tonnage waiting	7,395	40,969
C. & O. Piers, Newport News:		
Cars on hand	2,789	2,565
Tons on hand	137,485	131,730
Tons dumped for week	160,979	176,124
Tonnage waiting	19,745	11,700

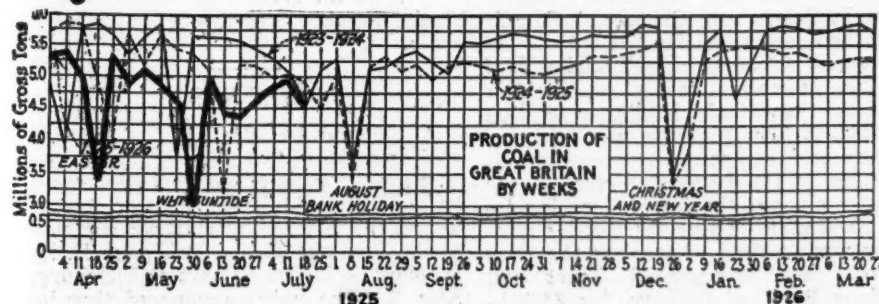
#### Pier and Bunker Prices, Gross Tons

PIERS		Aug. 1	Aug. 8†
Pool 1, New York	\$5.25@5.50	\$5.25@5.55	
Pool 9, New York	4.75@5.00	4.75@5.00	
Pool 10, New York	4.50@4.65	4.50@4.65	
Pool 11, New York	4.25@4.50	4.25@4.50	
Pool 9, Philadelphia	4.65@4.90	4.65@4.90	
Pool 10, Philadelphia	4.35@4.55	4.35@4.55	
Pool 11, Philadelphia	4.25@4.30	4.25@4.30	
Pool 1, Hamp. Roads	4.30	4.40	
Pool 2, Hamp. Roads	4.20	4.25	
Pools 5-6-7, Hamp. Rds.	4.10	4.15	
BUNKERS		Aug. 1	Aug. 8†
Pool 1, New York	\$5.35@5.65	\$5.45@5.75	
Pool 9, New York	4.80@5.00	4.85@5.20	
Pool 10, New York	4.50@4.65	4.70@4.85	
Pool 11, New York	4.25@4.50	4.45@4.70	
Pool 9, Philadelphia	4.80@5.05	4.80@5.05	
Pool 10, Philadelphia	4.60@4.80	4.60@4.80	
Pool 11, Philadelphia	4.45@4.65	4.45@4.65	
Pool 1, Hamp. Roads	4.40	4.50	
Pool 2, Hamp. Roads	4.25	4.35	
Pools 5-6-7, Hamp. Rds.	4.15	4.25	

#### Current Quotations British Coal f.o.b. Port, Gross Tons

Quotations by Cable to Coal Age		Aug. 1	Aug. 8†
Cardiff:			
Admiralty, large	30s.	30s.	
Steam smalls	17s. 6d.	17s. 6d.	
Newcastle:			
Best steams	18s.	16s. 6d. @ 17s.	
Best gas	16s.	25s.	
Best bunkers	18s. 6d.	16s. @ 18s. 6d.	

†Advances over previous week shown in heavy type; declines in italics.





## News Items From Field and Trade



### ALABAMA

The DeBardeleben Coal Co.'s mine No. 1 at Towley, one of the largest coal mines in Walker County, which was operated but little for some months, is now operating on full time. Many of the coal mines in the Birmingham district are operating from two to four and five days per week, while some are closed down entirely.

The first-aid meet at Birmingham, Oct. 6, will be featured by a demonstration of the explosibility of coal dust. The explosion test will be confined to carbide lamp ignition, it having been decided inadvisable to use the electric arc. At a later date a similar test will be given at Pittsburg, Kan., under the direction of J. J. Forbes, who is the head of the Safety Extension Service, U. S. Bureau of Mines.

### ARKANSAS

C. L. Melton, operator of one of the four open-shop coal mines at Alix, leased the Western Coal & Mining Co. mine No. 6, at Denning, last week and operations under the 1917 scale of wages will be attempted, according to reports. Melton began operations of his mine at Alix with non-union labor in January, 1924. About 35 men are employed and production will total more than 100 tons daily. Melton was the first operator in Arkansas to adopt the open-shop policy. Union miners are preparing to hold a demonstration in protest against opening the mine under non-union conditions.

### COLORADO

The Colorado Fuel & Iron Co. has made a reduction in wages effective Aug. 1. The new scale represents a reduction of approximately 11 per cent from the present which went into effect March 16, 1925, and which was a 20 per cent reduction from the former scale. A company statement issued July 31 said that all company mines in the Walsenburg district had accepted the new reduction and that the Morley mine alone in the Trinidad district, had not. The new scale cuts underground coal diggers from 82c. a ton to 80c. and day men from \$6.20 per day to \$5.52 per day. The same statement says the Aug. 1 scale is 5 per cent higher than the 1917 scale, on which various competing companies are now operating.

### ILLINOIS

The Chicago, Wilmington & Franklin Coal Co.'s mine No. 1, at Orient, will

resume operations Aug. 17 with a force of approximately 1,000 men. Mine No. 18 of the Industrial Coal Co., where operations stopped as a result of the tornado of March 18 last, plans to reopen on Sept. 1. This mine employs 600 men. This mine is at West Frankfort. Crews are now putting the underground plants in condition.

The Missouri Pacific R.R. has filed a petition with the Illinois Commerce Commission for permission to discontinue the regular weekly miners' train from Gorham to Benton. The train, which has been operated for several years, originally was intended for use of coal miners working at the New Bush mines. The increased use of automobiles since the development of hard roads in Illinois, however, has cut the patronage of the train to a point where it is continued at a large loss.

A campaign has been started by coal operators in southern Illinois to induce consumers in that general region, as well as all Illinois institutions supported by taxpayers, to buy Illinois coal. This campaign has been furthered by the Illinois Chamber of Commerce, co-operating with Rotary Clubs throughout the coal belt and with other organizations aiding. The movement was started when a southern Illinois coal operator obtained possession of a call for bids for state institutions in which it was specified that Indiana or Kentucky coal be used. A letter was immediately written to the institution calling attention to the unfairness of this discrimination against the mines of Illinois, which contribute their share to the support of the institutions. A copy also was sent to the Illinois Chamber of Commerce, which body responded stating that it would give co-operation.

The Minork mine resumed work July 24 after a shut down of four months.

A total of \$10,727,361 in coal deals including deeds of trust and quit claim deeds, has been recorded at Marion since Jan. 1, 1925, according to Fred Simpson, Recorder of Deeds for Williamson County. Upon the death of Levi P. Zeigler, of Chicago, last year it became necessary for the trustee for his estate to make a quit claim deed for approximately half of the Zeigler Coal & Coke Co.'s holdings, totaling \$2,038,612. The property was conveyed to the coal company, as was the remainder of the Leiter interests in the same company, the latter deal involving \$2,038,749. Later the Zeigler company made a deed of trust to the Continental and Commercial Trust and Savings Bank of Chicago for \$4,000,-

000. A few weeks ago the Cosgrove-Meehan Coal Co. issued a deed of trust to the Seaboard National Bank of New York for \$2,500,000. Recently a deed of trust for \$150,000 was recorded in favor of O. W. Lyerle, cashier of the Herrin State Savings Bank by the Sincerity Coal Co. Another recent deal was the sale of the West Virginia Mine and adjacent coal lands to Charles Gent, of Chicago, who represents large Eastern coal interests.

The Cosgrove-Meehan Coal Co. is expending \$125,000 on property north of its mine at Panama, in Montgomery County, for a plant to generate all electricity used in the operation of its mine at Panama, which employs 650 men. Thirty acres of ground will be turned into a large lake which will hold 50,000,000 gallons of water, to be supplied by the creek. This will furnish condensing water for the turbines. Exhaust steam, which is now wasted, will be utilized to operate the turbines. A dam 400 ft. long, 150 ft. wide at the base, 16 ft. wide at the top, and 27 ft. high is being constructed.

### INDIANA

Officials of District No. 11, United Mine Workers, at Terre Haute, have received notice that Judge Claude Smith of the Circuit Court at Princeton, has found the Princeton Coal Co. guilty of violating the state mining law. The suit was filed by the state mine inspection department and the specific charge was that of firing shots while all of the miners were in the mine.

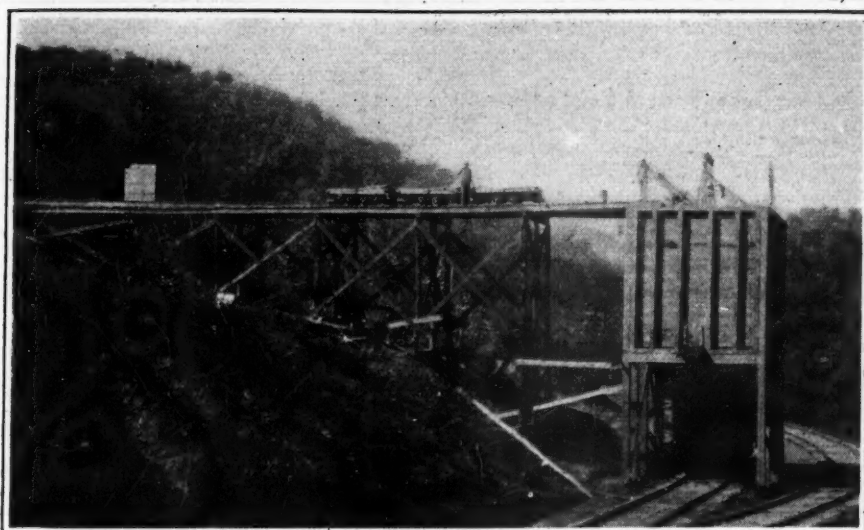
The Radiant Coal Company at Terre Haute, Ind., has filed a preliminary certificate of dissolution with the Secretary of State.

A new tippie and engine room, to take the place of the buildings destroyed by fire several months ago, are being erected by the Bosse Coal Co. and the work is almost completed. The Bosse mine, managed by Walter Korff, is located on the traction line a short distance below Boonville. With the modern improvements made, including an electric hoist, the Bosse Coal Co. is getting ready to start operations on a large scale.

### KANSAS

A demand by attorneys of Kansas coal operators for a trial by jury to determine the facts of compensation cases before their submission to an arbitrator under the Kansas workmen's compensation law was denied by Judge D. H. Woolley, in District Court at Pittsburg, Aug. 3. The judge announced that he





**Tipple and Storage Bin, St. Mihiel Coal Co.**

This simple equipment for run-of-mine coal is located at St. Mihiel, Ky., on the line of the Kentucky & Tennessee Ry. The heavy bin serves to steady the trestle and to make rapid loading possible.

would name arbitrators in the eight cases on which the defense objections were made, and thus complete the record for appeal to the State Supreme Court, where a ruling may be made on the defendants' demand. This action of Judge Woolley followed objections by defense attorneys two weeks before to the submission of compensation cases to arbitrators before the establishment of facts before a jury.

The Hamilton Coal & Mercantile Co. announced Aug. 3 that it proposed on Aug. 10 to reopen its mine No. 10, near Cherokee, in the southeastern Kansas district, which has been closed since April 6. The mine will employ 200 men. James Hamilton, Pittsburg, president of the company, also announced that five mines owned and operated by his company in Arkansas will be reopened this month.

After having been closed down soon after the shaft was sunk in the spring of 1918, No. 3 mine of the Domestic Fuel Co., near Gross, in the southeastern Kansas field, is being electrified in preparation for reopening soon. Officials of the company announced that it will be operated under lease as soon as substitution of electric for steam equipment is completed. The shaft was sunk just as the demand for men for war service began to be felt in labor districts and the difficulty of obtaining workmen was the reason given for closing it before it had begun to produce. It will start with fifty men, the number to be doubled or tripled as underground workings are developed. The mine is on 280 acres of land owned by the Domestic Fuel Co.

The first arbitration through a federal arbitrator of a miner's damage suit in Kansas began July 20, in Pittsburg, before W. P. Dillard, a Fort Scott lawyer, appointed by Judge John C. Pollock in federal court to hear the claim of Charles Warlop against the Western Coal & Mining Co. Warlop asks compensation of \$15 a week for eight years for injuries said to have been received in a Western mine. The

case was removed from district court to federal court by defense attorneys on the ground that the sum sought exceeded \$3,000.

The Pittsburg & Midway Coal Co., which recently assembled a large acreage of coal land in Labette County for the Missouri, Kansas & Texas R.R., has bought ten acres of land near Valeda and Angola for a tipple and other buildings, but denies that work will start soon in the new field.

The Atchison, Topeka & Santa Fe R.R. is said to be obtaining leases on coal land in the vicinity of Coffeyville, through the Cherokee & Pittsburg Coal & Mining Co. Blocking work by the Cherokee & Pittsburg company is south of the tract recently blocked by the Pittsburg & Midway Coal & Mining Co. for the Missouri, Kansas & Texas R.R.

## KENTUCKY

It is reported that in the Democratic primary in Kentucky on Aug. 3 candidates opposing horse racing and favoring a tonnage tax on coal, two issues which have been linked in politics, were defeated all over the state, which today has a Democratic Governor, who is in control of that party. Feeling is that the 1926 legislative session will not be anything like as dangerous from the operators' viewpoint as it was considered a few weeks ago.

The Kentucky Board of Charities and Corrections, operating the various state institutions, which received bids on coal supplies on June 5 placed orders Aug. 4. Buying prices ranged from 90c. to \$1 a ton for western Kentucky 14-in. screenings, f.o.b., mines, and eastern Kentucky prices were \$1 to \$1.14 a ton for screenings. The West Kentucky Coal Co., Paducah and Sturgis, received a 100-car order for the Hopkinsville institutions; the Coil Coal Co., Madisonville, got a 75-car order for the Eddyville penitentiary; the former at \$1 and the latter at 90c. Ayers & Son, Detroit, for the Liberty Coal & Coke Co., Pineville, obtained contracts for supplying

institutions at Frankfort, Lexington, and Lakeland, the price being \$1.14 a ton for nut and slack; the Stearns Coal & Lumber Co., Stearns, obtained the Greendale contract, at \$1.

The Morganfield Coal & Coke Co. is completing the installation of two new boilers, which will be in operation soon. The company is making other extensive improvements, having erected a new 300-ton coal bin for local trade, and installed two additional pumps. These improvements, which will cost approximately \$10,000, are being made preparatory to increasing the production of the mine.

Petition was filed recently in Judge Ruby Lafoon's court at Madisonville by the Hart Coal Co. asking that the Sherwin Coal & Coke Co. be declared bankrupt. Among the creditors of the defendant company are the Curtin Coal Co., the Mineters Coal Co. and Geo. E. Hutchinson & Co. The defendant company owns a mine at Madisonville but has not operated it for some time.

A large acreage of coal land in Bell County has been acquired by the Wallsend Coal Co. of Delaware. The company purchased the property of the old Wallsend Coal Co., and will spend about \$60,000 immediately on improvements. Additional acreage was acquired from Judge Louis Apperson, of Mt. Sterling, taking in the coal lands up Dorton's Branch. Other acreage was purchased from Charles Conant and in the Logan estate, in what is known as the Mt. Vincent property.

## MASSACHUSETTS

The Rochester & Pittsburgh Coal & Iron Co. has taken over the Boston office of M. L. Cobb, 10 Post Office Square, who formerly represented the company in that territory. Clarence Cobb, who succeeded his father when the latter died, about ten years ago, has retired. F. E. Clark, who represented the Rochester & Pittsburgh company in Albany for two years, is now in charge of the Boston office. William D. Scofield has taken Mr. Clark's place in Albany. These changes became effective Aug. 1.

## MINNESOTA

The Woodhead Motor Co., of Brainerd, a Ford dealer, is erecting coal sheds for the purpose of handling coal from the Ford mines in Kentucky. This company handled thirty cars of Ford coal last season.

W. H. Godwin, vice-president in charge of sales of the Carnegie Dock & Fuel Co., who was in Duluth last week, predicted that shipments from the docks would show good increases within the next month.

Officials of the Zenith Furnace Co., at Duluth, are counting upon greatly increased sales of domestic coke during the fall and winter months. Substantial stocks of coke are being accumulated to take care of the early trade. The use of coke and buckwheat mixture came into use to some extent in Duluth last winter as a substitute for prepared sizes of anthracite.

The announcement that W. H. Warner & Co., of Cleveland, had purchased the interest of the Maher Collieries Co. in the Pittsburgh & Ashland Coal & Dock Co., operating a modern dock at Duluth, was noted with interest in trade circles here. The deal is said to have been prompted by the increased movement of West Virginia and Kentucky coals to Duluth.

### MISSOURI

Miners who have been employed in Mine No. 11 at Higbee held a meeting with the operators last week relative to operating the mine on a co-operative plan. The mine was recently purchased by John Italiana. One hundred and seventeen men have been employed in the shaft, but it is understood that conditions have not been good and several men have been laid off on account of lack of demand for the product. The mine's contract with the Missouri, Kansas & Texas R.R. has expired. Although the outlook is discouraging it is thought that arrangements can be made whereby the mine can be operated on a co-operative basis.

### MONTANA

An appeal to the labor men of Missoula and the Missoula public to use Montana-mined coal was the theme of a recent address before the Missoula Trades and Labor council by Stephen Ely, president of the Montana State Federation of Labor. Mr. Ely said that approximately 700,000 tons of coal is shipped into Montana each year for consumption by the Montana public from other states, principally from Utah. Montana coal fields can employ 4,000 or more men when operating on full time. At present half of that number are idle while the remaining 2,000 are forced to work on reduced time because Montana people are burning foreign mined coal.

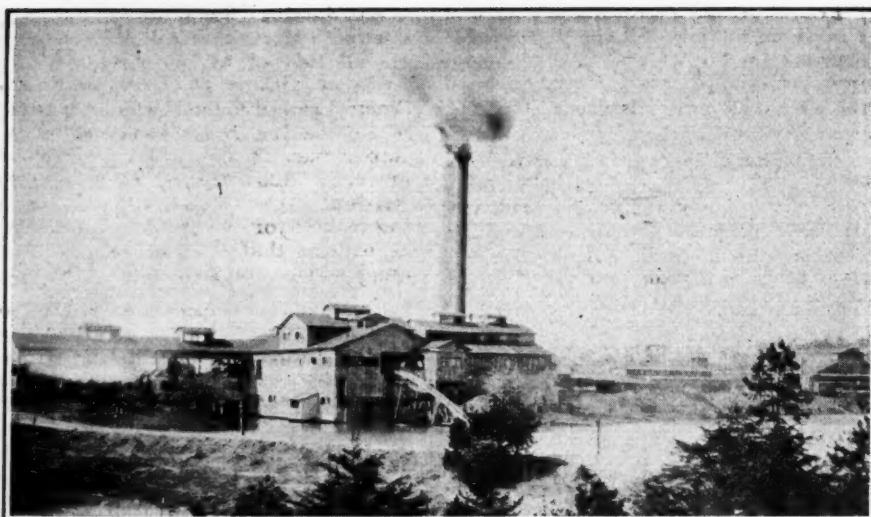
### NEW YORK

Roy Heyser, general coal purchasing agent for the Semet-Solvay Co., has changed his headquarters from the company's plant in Syracuse to New York City.

### NORTH DAKOTA

A discovery of deeper coal beds has been made at the mines of the Washburn Lignite Coal Co. at Wilton. While sinking a well, a 9-ft. bed was found at a depth of 90 ft. and a 6-ft. bed at 140 ft. The present workings are 11 to 14 ft. thick at 65 ft. depth. Test pits will be sunk to ascertain if the new beds exist in any spread of area.

The Washburn Lignite Coal Co., of Wilton, has gone into court to prevent the state from completing contracts for furnishing fuel to state institutions, with concerns whose bids were higher than the figures of the Washburn company. The policy of the state has been to distribute the business among several firms as a guard against tie-ups of various kinds. The plaintiff company seeks to have all business awarded to it upon which it was the lowest bidder. State officials will resist the



Sawmill and Power House, Stearns Coal & Lumber Co., Stearns, Ky.

Stearns is the point of junction of the Cincinnati, New Orleans & Texas Pacific (now part of the Southern Ry. system) and the Kentucky & Tennessee R.R. The mines of the Stearns Coal & Lumber Co. are west of Stearns, along the South Fork of the Cumberland River and Rock Creek.

case, holding that other factors besides price enter into the matter.

### OHIO

Two eastern Ohio mines of the Clarkson Coal Co., Cleveland, with a daily capacity of 4,500 tons, were to suspend operations last week, it was announced Aug. 6 by A. C. J. Allsain, commissioner for the Pittsburgh Coal Operators' Association. The mines are St. Clairsville and Dillonville. Failure of Ohio and Pennsylvania operators to obtain lower freight rates to compete with southern West Virginia coal is largely responsible for the suspension, Mr. Allsain said. He pointed out that this action would leave but 11 of the 131 eastern Ohio mines operating at capacity.

K. M. Pinaire resigned as assistant secretary of the Pittsburgh Vein Operators Association of Ohio on Aug. 1 to engage in the practice of law.

J. P. Brennan, state purchasing agent, has received requisitions and will open bids soon for about 300,000 tons of nut, pea and slack or run of mine coal for 26 institutions in the state. This will be a winter's supply, and the coal will be all Ohio mined.

About one-half of the miners in the Pomeroy Bend field, which numbered 1,800 in normal times, are now employed. Of the 900 working about 360 are employed by the Pittsburgh Coal Co. and 160 at the Stalter Essex Coal Co. mines, all working on the 1917 scale. In addition co-operative mining at the two operations of the old Maynard Coal Co. and other small mines makes up the balance. No further trouble with union officials has been experienced in the field and miners are seeking employment every day.

### PENNSYLVANIA

Six men were killed and thirteen injured in a gas explosion Aug. 3 at the Dorrance Colliery of the Lehigh Valley Coal Co. It was two hours before the dead and injured could be re-

moved from the scene of the blast. The cause of the explosion has not been ascertained, although it was suggested that blasting operations might have ignited gas collected in that portion of the mine. Reports that a fire followed the explosion were denied by company officials. The shaft was badly damaged.

Eight hundred mine workers at the Greenwood colliery of the Lehigh Coal & Navigation Co., who struck Aug. 1 in protest against the introduction of a time registering system returned to work Aug. 4. The men agreed to place the matter in the hands of the higher officials of the United Mine Workers. No wages are involved in the controversy.

The 600 miners who struck several days ago at the Drifton Colliery of the Lehigh Valley Coal Co. on the claim that grievances were not being adjusted as had been promised, returned to work Aug. 6. The mine committee has been instructed to again take up the matters in dispute with company officials.

The Oliver & Snyder Steel Co. has started to ship coal to the new byproduct plant of that company and affiliated interests in Troy, N. Y., which will be placed in operation as soon as the first shipments arrive there. Approximately 1,250 tons is being shipped daily to the new ovens from the Connellsville district. It is understood the new outlet has permitted the Oliver & Snyder interests to start up an idle mine.

### UTAH

Efforts are being made to have the Bureau of Mines stage its coal-dust explosion demonstration during the three-day meeting of the Rocky Mountain Coal Mining Institute, Aug. 26, 27 and 28, at Price, Carbon County. The dust from the Carbon County field is said to be the most highly explosive in the United States, and its treatment is of special interest. The committee arranging the affair consists of W. J. Reid, of Wattis; Dave Brown, of Spring Canyon, and John M. Jennings, of Hiawatha.



Practically all of the school lands in Uintah Basin are claimed by the government on the ground that the lands were of known mineral character at the time they were acquired. The state is to be sued for their title.

The John Farr Coal Co. and the Williams Coal Co., of Ogden, will supply that city's municipal government with its coal during the coming winter. The Farr company will supply screened slack at \$3.90 per ton, and the Williams company, lump coal at \$7.

### WEST VIRGINIA

In the recent semi-annual statement of the finances of the United Mine Workers, according to the *United Mine Workers' Journal*, \$411,475 was spent in the Kanawha and \$124,000 spent in the Fairmont field for relief in the six months ended June 31. W. C. Thompson, secretary of District No. 17, received \$22,849.05 as administrative expenses. Attorney T. C. Townsend, chief counsel of the miners in the state, received \$8,606.57. A donation of \$500 to the Barrackville Disaster Relief Fund also was included.

H. E. Peters, formerly president of Sub District No. 4, District No. 17, United Mine Workers, is ill with tuberculosis at the state sanitarium at Terra Alta. Peters, who came here from Charleston in 1918 with the entrance of the union, was impeached from office.

### WYOMING

Leasing of two tracts of public coal lands in Wyoming has been authorized by the Secretary of the Interior. One of the tracts, located in Carbon County, contains 471 acres. It will be offered for leasing on the petition of Fred D. McMillen, who holds a coal permit on the land. Terms of the lease provide for the payment of a royalty of 10c. per ton, mine-run, on all coal produced, an investment of \$50,000 during the first 3 years of the lease and a minimum production of 36,000 tons a year commencing with the fourth year. The other tract in Sheridan County, contains 40 acres and will be offered on the petition of the Sheridan-Wyoming Coal Co. Terms of the lease include the payment of a royalty of 10c. per ton, mine-run, on all coal produced, an investment of \$10,000 during the first year of the lease and a minimum output of 4,000 tons a year beginning with the fourth year. The leases will be offered at the local land offices located at Cheyenne and Buffalo, Wyo., respectively.

### ALASKA

E. Schinck, who recently returned to Dawson from a trip to St. Paul, where he attended a meeting of the directors of the Five Fingers Coal Co., reports that plans were made for the future operation of the property. Practically all of the coal used in Dawson comes from the Five Fingers Mine.

### CANADA

Alberta coal has arrived in Toronto under the agreement with the Can-

adian National Railways for the experimental shipment of 25,000 tons at a special rate of \$7 per ton. Owing to strike conditions at the Alberta mines considerable difficulty was encountered in making the first shipments, but it is stated that these obstacles have been overcome, and Charles McCrea, provincial Minister of Mines, who is handling the matter for the province, states that he expects that the full amount of the order will be shipped.

Canadian consumers may be burning coal mined in Australia before the end of the coming winter if the present labor difficulties both in the United States and England cause a shortage, in the opinion of C. D. Patterson, of Sydney. Australian mine owners are already making plans, he told *Coal Age*, to enter the world market in the event of a rise in coal prices. Mr. Patterson will make a survey of the Canadian market and will report to his firm as to the advisability of opening branches in the larger Canadian cities. Coal shipped across the Pacific, he believes, could be laid down in Canada at prices which would enable it to compete with that from the Pennsylvania fields and from England. Such a course, however, is likely to be followed only in the event of a shortage being caused by disputes between operators and miners on this continent.

## Traffic

### Commerce Commission Decisions and Recommendations

Division 4 of the Interstate Commerce Commission released a decision Aug. 1 in Docket 14856, Tioga Coal Co. vs. B. & O. R.R. It finds that the Strouds Creek & Muddlety R.R. is a common carrier. It also finds that rates on coal from mines on that line to interstate destinations are not unreasonable, but are unduly prejudicial to the extent they exceed the rates contemporaneously maintained on like traffic by the defendant to the same destinations from Allingdale, W. Va. The Commission also orders that through routes and joint rates on coal in carloads must be established and maintained by the B. & O. in connection with the Strouds Creek & Muddlety R.R.

This decision has the result of placing the mines on the Strouds Creek R.R. in the Gauley District. The complainants also ask that the B. & O. be required to establish just, reasonable and adequate daily car rating for complainants' mines.

The Commission finds that paragraph 12 of Section 1 of the Interstate Commerce Act requires the trunk line on whom such railroads as the Strouds Creek customarily gets its car supply to maintain reasonable distribution of cars for the transportation of coal. Therefore, the B. & O. is ordered to treat this line as any other line dependent upon it for a car supply. No order is issued in this respect, but it is stated that the B. & O. will be expected to give the same treatment in the matter of car

service to this railroad as it does to its own Richwood Branch.

In Docket 15228, Board of Railroad Commissioners of the State of Iowa vs. Alton & Southern, Examiner Wm. A. Disque has recommended that the complaint be dismissed. This docket also embraces 15266, Lehigh Portland Cement Co. vs. A. T. & S. F.; 15299, Hannibal Shippers' Association vs. A. T. & S. F.; 15629, Atlas Portland Cement Co. vs. Burlington; 15860, Dolese Bros. vs. Rock Island.

There was under attack rates on bituminous coal from producing points in Illinois, Indiana and western Kentucky to points in Iowa and to Hannibal, Mo. The examiner finds the rates not unreasonable, unjustly discriminatory nor unduly prejudicial and not in violation of Section 4 of the act. Differentials as among origin groups were not directly involved in any of the cases. Many traffic and commercial organizations and receivers of coal intervened to support the complaints, while coal dock operators at the west bank of Lake Michigan and mine operators in Iowa intervened to oppose the rate reduction sought.

The report of the examiner covers the rate situation in Illinois, Indiana and west Kentucky territory at great length. After carefully reviewing all of the rates he recommends that the Commission dismiss the complaint.

In Docket 15228, Sub. No. 1—Fifth & Ninth Districts Coal Traffic Bureau vs. Santa Fe R.R., Examiner Wm. A. Disque has recommended dismissal. There was involved in this complaint the rates for the transportation of coal from points in the Belleville Group in Illinois to points in Iowa and to Hannibal, Mo.

The examiner finds the rates under attack to be not unreasonable or unduly prejudicial. It was alleged by the complainants that the rates on coal from points in the Belleville Group to points in Iowa in general are unreasonable and unduly prejudicial as compared with the rates from the Springfield Group and other groups in Illinois and western Kentucky to the same destinations. It was also alleged that defendants in many instances restrict the application of joint rates to certain circuitous routes and refuse to establish such rates over certain direct routes from and to the points embraced in the proceedings. This report also embraces Docket 15299, Sub. No. 1, the same complainant versus the B. & O. R.R.

After reviewing this rate structure at length the Examiner concludes by recommending dismissal.

### Indian Creek Case Dismissed

The Interstate Commerce Commission has dismissed complaint in Docket 15742, Indian Creek Coal & Coke Co. vs. Atlantic City Railroad Co. et al., finding that the rates on coal from points on the Indian Creek Valley Ry. to Eastern and New England destinations are not unduly prejudicial. Complaints attacked the rates on the ground that they should not exceed those maintained from the Meyersdale region.

## Obituary

**Joseph F. Dierdorf**, manager of works and chief engineer for the Jeffrey Manufacturing Co., of Columbus, Ohio, died at French Lick recently from Bright's disease superinduced by an operation for appendicitis. He was 49 years of age and had been connected with the Jeffrey Manufacturing Co. for more than 35 years, of which the last 14 years was manager of works. He was one of the best known authorities on mining machinery and conveying equipment in the country. He leaves a wife, two daughters and two brothers.

**Elmer E. McConnoughy**, a former operator in the Jackson (Ohio) district was buried in Dayton, Ohio, late in July. He had put in his life in the coal trade and was well known in southern Ohio and eastern Indiana. For the past five years he represented the Kearns Coal Co., of Cincinnati, in central Ohio. Mr. McConnoughy had been ailing for years and was afflicted with heart trouble.

## Trade Literature

The Truscon Laboratories, Detroit, Mich., recently issued new and revised specifications on all their waterproofings in a 36-page book, size 8½ x 11 in. Each specification is complete with information how to use, quantity required and illustrations. Book A is one in a series of six books.

The Federal Electric Co., Chicago, Ill., has issued a booklet illustrating and describing its **Type A Siren**. Information as to weight, prices and voltage is included.

S. Flory Mfg. Co., Bangor, Pa., has issued catalog No. 39, devoted exclusively to **gasoline hoists**, covering their general specifications and containing lists of standard sizes from 5 to 60 hp.

**Modern Methods in Diesel Engine Building**. Fairbanks, Morse & Co., Chicago, Ill. Bulletin No. 1040. Pp. 32; 8½ x 11 in.; illustrated.

The Lunkenheimer Co., Cincinnati, Ohio, has issued an 8½ x 11 in. catalog describing and illustrating its new line of **Iron Body Bronze Mounted Gate Valves**.

## Coming Meetings

**Rocky Mountain Coal Mining Institute**. Summer meeting, Aug. 26-29 at Price, Utah. Secretary, Benedict Shubart, Denver, Colo.

**American Institute of Mining and Metallurgical Engineers**. 132d meeting, at Salt Lake City, Utah, Aug. 31 to Sept. 3. Secretary, H. Foster Bain, 29 West 39th St., New York City.

**Oklahoma Coal Operators' Association**. Annual meeting, Sept. 10 at McAlester, Okla. Secretary, A. C. Casey, McAlester, Okla.

**New York State Coal Merchants' Association**. Annual convention, Sept. 10-12, at Richfield Springs, N. Y. Executive Secretary, G. W. F. Woodside, Arkay Bldg., Albany, N. Y.

**Association of Iron and Steel Electrical Engineers**. Annual meeting at Philadelphia, Pa., Sept. 14-19. Secretary, John F. Kelly, Empire Bldg., Pittsburgh, Pa.

**National Safety Council**. Annual meeting Sept. 28 to Oct. 2, at Cleveland, Ohio. Managing Director, W. H. Cameron, 168 No. Michigan Ave., Chicago, Ill.

**Tenth Exposition of Chemical Industries**, Sept. 28 to Oct. 3, at Grand Central Palace, New York City.

**Electric Power Club**. Fall meeting at Briarcliff Manor, N. Y., Oct. 19-22. Secretary, S. N. Clarkson, B. F. Keith Bldg., Cleveland, Ohio.

**Canadian Institute of Mining and Metallurgy**. Annual western meeting Nov. 3-5, Winnipeg, Manitoba, Can. Secretary, George C. Mackenzie, Drummond Bldg., Montreal, Que., Can.

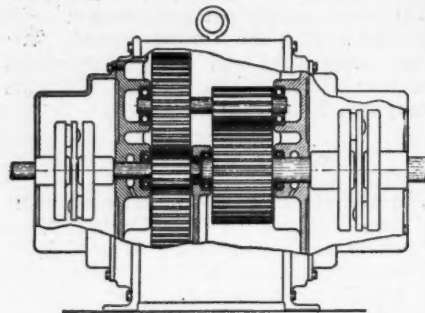
**American Society of Mechanical Engineers**. Annual meeting at New York City, Nov. 30-Dec. 3. Secretary, Calvin W. Rice, 29 West 39th St., New York City.

## New Equipment

### Special Iron Evolved for Mine Car Couplings

Appreciating the need at coal mines for a high grade of wrought iron which in pins, links, draw bars and hitchings on mine cars will withstand severe tension and bending forces, the American Car & Foundry Co., of Chicago, Ill., offers a special product known as "AF iron." This iron has been evolved by a special committee of company engineers after numerous conferences with operating men at the mines and various experiments and tests in mill and forging departments.

The iron has the following physical characteristics: Ultimate tensile strength of not over 50,000 lb. per square inch; yield point of 0.6 of tensile strength; an elongation in 8 in. of 0.28 and a reduction in area of 0.40. Samples of this iron will bend cold through 180 deg. without a sign of rupture. Furthermore, after being nicked, a sample when bent cold through 180 deg. must show a long silky fiber which is free from slag, dirt and coarse crystalline spots. A specimen meeting these specifications after being subjected to this



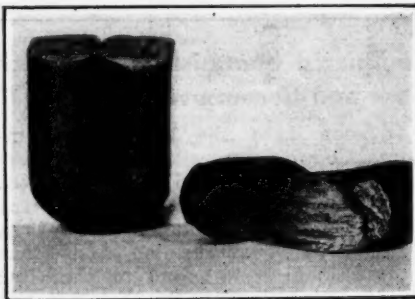
### It Is Safe and Compact

This broken-away view illustrates the simplicity of this type of spur gear speed reducer enclosed in a housing which includes safety covers around the flexible couplings.

chine upon the other are also inclosed in an auxiliary housing making the complete unit unusually compact.

Gear ratios in this machine may be made as large as strength and good wearing qualities of the teeth will permit. Inasmuch also as any desired number of single reductions or gear pairs may be embodied, the total reduction between driving and driven shaft may be made as large or as small as desired. Carrying all shafts on ball bearings assures the least possible loss of power in useless friction.

Machine design and fabrication at present is undergoing a more or less radical change. A few years ago the exposed train of gears was the all but universal method by which power was transmitted from a high-speed driving to a low-speed driven shaft. Now-a-days it is becoming more and more the common practice to supplant these bulky exposed gears with some form of inclosed speed reducer. These devices are far more compact, less noisy and more economical of power than the older gear trains.



### Tough Iron

This metal, intended especially for pins, links and drawbars for mine service, is expected to meet severest tests.

second test is shown on the right of the accompanying illustration. It must meet a third test in which the sample is heated to a forging temperature and cooled; then it is subjected to the procedure outlined above for the second test and must possess the same fibrous structure.

### Speed Reducer Is Equipped With Ball Bearings

A new type of spur-gear speed reducer, embodying several features and details of construction not heretofore available in machines of this kind, has recently been placed on the market by the Albaugh-Dover Manufacturing Co., 2100 Marshall Blvd., Chicago, Ill. As may be seen in the accompanying illustration, this machine consists of a train of any desired number of pairs of spur gears all totally inclosed, running in an oil bath and mounted on ball bearings. The flexible couplings attaching this device to the driving motor upon one end and to the shaft of the driven ma-

## Recent Patents

**Weighting Apparatus for Powdered Fuel**; 1,538,115. Fritz Hoving, Chicago, Ill., assignor to Raymond Bros. Engineering Co., Chicago, Ill. May 19, 1925. Filed May 22, 1922; serial No. 562,854.

**Float-and-Sink Testing Apparatus**; 1,538,626. George R. Delamater, Lakewood, Ohio. May 19, 1925. Filed April 26, 1924; serial No. 709,286.

**Mining Machine**; 1,538,685. Frank Cartledge, Cincinnati, Ohio, assignor to Sullivan Machinery Co., Chicago, Ill. May 19, 1925. Original application filed June 5, 1916; serial No. 101,687. Divided and this application filed June 25, 1924; serial No. 722,372.

**Apparatus for Localizing and Quenching Explosions in Mines**; 1,539,091. Arnold Krantz, Gelsenkirchen, Germany. May 26, 1925. Filed March 12, 1924; serial No. 698,814.

**Power Coal Shovel**; 1,539,130. Oswald Luschig, Nokomis, Ill. May 26, 1925. Filed Feb. 28, 1925; serial No. 12,308.

**Continuous Rotary Dump**; 1,539,205. Erskine Ramsay, Birmingham, Ala. May 26, 1925. Filed Sept. 5, 1922; serial No. 586,163.

**Rock and Coal Dust Determining Cabinet**; 1,539,657. A. C. Fieldner, Pittsburgh, Pa. May 26, 1925. Filed July 18, 1924; serial No. 726,884.